



XMPP

XEP-0279: Server IP Check

Peter Saint-Andre
<mailto:peter@andyet.net>
<xmpp:stpeter@stpeter.im>
<https://stpeter.im/>

Diana Cionoiu
<mailto:diana@null.ro>
<xmpp:l-fy@jabber.null.ro>

Thiago Camargo
<mailto:thiago@xmppjingle.com>
<xmpp:barata7@gmail.com>

2013-04-17
Version 0.2

Status	Type	Short Name
Deferred	Standards Track	sic

This specification defines a simple XMPP extension that enables a client to discover its external IP address.

Legal

Copyright

This XMPP Extension Protocol is copyright © 1999 – 2017 by the [XMPP Standards Foundation](#) (XSF).

Permissions

Permission is hereby granted, free of charge, to any person obtaining a copy of this specification (the "Specification"), to make use of the Specification without restriction, including without limitation the rights to implement the Specification in a software program, deploy the Specification in a network service, and copy, modify, merge, publish, translate, distribute, sublicense, or sell copies of the Specification, and to permit persons to whom the Specification is furnished to do so, subject to the condition that the foregoing copyright notice and this permission notice shall be included in all copies or substantial portions of the Specification. Unless separate permission is granted, modified works that are redistributed shall not contain misleading information regarding the authors, title, number, or publisher of the Specification, and shall not claim endorsement of the modified works by the authors, any organization or project to which the authors belong, or the XMPP Standards Foundation.

Warranty

NOTE WELL: This Specification is provided on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE.

Liability

In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall the XMPP Standards Foundation or any author of this Specification be liable for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising from, out of, or in connection with the Specification or the implementation, deployment, or other use of the Specification (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if the XMPP Standards Foundation or such author has been advised of the possibility of such damages.

Conformance

This XMPP Extension Protocol has been contributed in full conformance with the XSF's Intellectual Property Rights Policy (a copy of which can be found at <https://xmpp.org/about/xsf/ipr-policy>) or obtained by writing to XMPP Standards Foundation, P.O. Box 787, Parker, CO 80134 USA).

Contents

1	Introduction	1
2	Protocol	1
3	Determining Support	2
4	Security Considerations	2
5	IANA Considerations	3
6	XMPP Registrar Considerations	3
6.1	Protocol Namespaces	3
6.2	Protocol Versioning	3
7	XML Schema	3
8	Acknowledgements	4

1 Introduction

There are times when a client might want or need to discover what its external Internet Protocol (IP) address and port are, e.g. when gathering transport candidates for protocols such as [SOCKS5 Bytestreams \(XEP-0065\)](#)¹ or [Jingle ICE-UDP Transport Method \(XEP-0176\)](#)². One way to do so is for the client to ask the XMPP server to which it has connected. This specification defines such a method. The information provided by the server cannot necessarily be relied upon because there might be intermediate entities between the client and the server, but if the IP address and port returned by the server is different from the client's notion of its IP address and port then at the very least the client has received a hint that it might be behind a network address translator (NAT) and therefore cannot usefully provide its private IP address as a candidate for use in multimedia negotiations.

2 Protocol

First the client sends an IQ-get request to its server.

Listing 1: Client requests its IP address from the server

```
<iq from='romeo@montague.lit/orchard'
  id='ik2s7159'
  type='get'>
  <address xmlns='urn:xmpp:sic:1' />
</iq>
```

The server then returns an IQ-result containing an <address/> element containing an <ip/> element specifying the client's external IP address and, optionally, a <port/> element specifying the client's external port.

Listing 2: Server returns IP address and port

```
<iq id='ik2s7159'
  to='romeo@montague.lit/orchard'
  type='result'>
  <address xmlns='urn:xmpp:sic:1'>
    <ip>192.168.4.1</ip>
    <port>12345</port>
  </address>
</iq>
```

Note that the IP address could be IPv4 or IPv6.

¹XEP-0065: SOCKS5 Bytestreams <<https://xmpp.org/extensions/xep-0065.html>>.

²XEP-0176: Jingle ICE-UDP Transport Method <<https://xmpp.org/extensions/xep-0176.html>>.

Listing 3: Server returns IPv6 address

```

<iq id='ik2s7159'
  to='romeo@montague.lit/orchard'
  type='result'>
  <address xmlns='urn:xmpp:sic:1'>
    <ip>2001:db8::9:1</ip>
    <port>12345</port>
  </address>
</iq>

```

3 Determining Support

If an entity supports this protocol, it MUST report that by including a service discovery feature of "urn:xmpp:sic:1" in response to disco#info requests (see Protocol Namespaces regarding issuance of one or more permanent namespaces).

Listing 4: Service discovery information request

```

<iq from='romeo@montague.lit/orchard'
  id='ux71f395'
  to='montague.lit'
  type='get'>
  <query xmlns='http://jabber.org/protocol/disco#info' />
</iq>

```

Listing 5: Service discovery information response

```

<iq from='montague.lit'
  id='ux71f395'
  to='romeo@montague.lit/orchard'
  type='result'>
  <query xmlns='http://jabber.org/protocol/disco#info'>
    <feature var='urn:xmpp:sic:1' />
  </query>
</iq>

```

4 Security Considerations

[XMPP Core](#)³ specifies that client IP addresses shall not be made public. If a client requests its own IP address, that policy is not violated. However, a server MUST NOT return the IP address of another client (e.g., if a connected client sends a SIC request to the bare JID of another user); instead, it MUST return a <forbidden/> error.

³RFC 6120: Extensible Messaging and Presence Protocol (XMPP): Core <<http://tools.ietf.org/html/rfc6120>>.

5 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)⁴.

6 XMPP Registrar Considerations

6.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:sic:1

Upon advancement of this specification from a status of Experimental to a status of Draft, the [XMPP Registrar](#)⁵ shall add the foregoing namespace to the registry located at [<https://xmpp.org/registrar/namespaces.html>](https://xmpp.org/registrar/namespaces.html), as described in Section 4 of [XMPP Registrar Function \(XEP-0053\)](#)⁶.

6.2 Protocol Versioning

If the protocol defined in this specification undergoes a revision that is not fully backwards-compatible with an older version, the XMPP Registrar shall increment the protocol version number found at the end of the XML namespaces defined herein, as described in Section 4 of XEP-0053.

7 XML Schema

```
<?xml version='1.0' encoding='UTF-8'?>
<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:sic:1'
  xmlns='urn:xmpp:sic:1'
  elementFormDefault='qualified'>
```

⁴The Internet Assigned Numbers Authority (IANA) is the central coordinator for the assignment of unique parameter values for Internet protocols, such as port numbers and URI schemes. For further information, see <http://www.iana.org/>.

⁵The XMPP Registrar maintains a list of reserved protocol namespaces as well as registries of parameters used in the context of XMPP extension protocols approved by the XMPP Standards Foundation. For further information, see <https://xmpp.org/registrar/>.

⁶XEP-0053: XMPP Registrar Function [<https://xmpp.org/extensions/xep-0053.html>](https://xmpp.org/extensions/xep-0053.html).

```
<xs:element name='address' type='xs:string' />
<xs:element name='address'>
  <xs:complexType>
    <xs:sequence minOccurs='0'>
      <xs:element name='ip' maxOccurs='unbounded' type='xs:string' />
      <xs:element name='port' maxOccurs='unbounded' type='
        xs:positiveInteger' use='optional' />
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

8 Acknowledgements

Thanks to Joe Hildebrand for his feedback.