Internet Engineering Task Force (IETF)
Request for Comments: 6315
Category: Informational
ISSN: 2070-1721

E. Guy
CleverSpoke
K. Darilion
nic.at

July 2011

IANA Registration for Enumservice 'iax'

Abstract

This document registers an Enumservice for the Inter-Asterisk eXchange (IAX) protocol according to the guidelines given in RFC 6117.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Not all documents approved by the IESG are a candidate for any level of Internet Standard; see Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc6315.

Table of Contents

1. Introduction

The E.164 to Uniform Resource Identifiers (URIs) [RFC3986] Dynamic Delegation Discovery System (DDDS) Application (ENUM) [RFC6116] transforms E.164 [E164] numbers into URIs using the Domain Name System (DNS) [RFC1035].

IAX (Inter-Asterisk eXchange) [RFC5456] is an "all-in-one" protocol for handling multimedia in IP networks. It combines both control and media services in the same protocol.

This document registers an Enumservice for the IAX [RFC5456] protocol according to the guidelines given in [RFC6117].

2. IANA Registration

```
<record>
 <!-- iax -->
 <class>Protocol-Based</class>
 <type>iax</type>
 <!-- No subtype -->
 <urischeme>iax</urischeme>
 <functionalspec>
   <paragraph>
     The 'iax' Enumservice is used to map E.164 numbers to
     IAX URIs.  Such URIs identify resources capable of being
     contacted to provide a communication session using the
     IAX protocol <xref target="RFC5456"/>.
   </paragraph>
   <paragraph>
     A client selecting this NAPTR needs to be able to support
     communication utilizing the IAX protocol.
   </paragraph>
 </functionalspec>
 <security>
   See <xref type="rfc" data="6315"/>, Section 4.
 </security>
 <usage>COMMON</usage>
 <registrationdocs>
   <xref type="rfc" data="6315"/>
 </registrationdocs>
 <requesters>
   <xref type="person" data="Ed_Guy"/>
   <xref type="person" data="Klaus_Darilion"/>
 </requesters>
</record>

<people>
  <person id="Ed_Guy">
    <name>Ed Guy</name>
    <org>CleverSpoke, Inc</org>
    <uri>mailto:edguy@CleverSpoke.com</uri>
    <updated>2010-11-01</updated>
  </person>
  <person id="Klaus_Darilion">
    <name>Klaus Darilion</name>
    <org>nic.at</org>
    <uri>mailto:klaus.darilion@nic.at</uri>
    <updated>2011-03-24</updated>
  </person>
</people>
```

3. Examples

The following examples are just for illustrative purposes and will in no way limit the usage of the 'iax' Enumservice to other usage scenarios.

3.1. Simple IAX URI

The following Naming Authority Pointer (NAPTR) resource record is an example of the 'iax' Enumservice.

```
$ORIGIN 8.4.1.0.6.4.9.7.0.2.4.4.e164.arpa.

@     IN NAPTR ( 10 100 "u" "E2U+iax"
          "!^.*$!iax:example.com/alice!" . )
```

This contact information indicates that the party addressed by the E.164 number +442079460148 can be contacted using the IAX protocol to domain 'example.com'. The called party, service, or program on that domain is identified by 'alice'.

3.2. IAX URI with a Context

The following is an example of the 'iax' Enumservice using an IPv6 destination address and a destination 'context'.

```
$ORIGIN 9.4.1.0.6.4.9.7.0.2.4.4.e164.arpa.

@     IN NAPTR ( 10 100 "u" "E2U+iax"
          "!^.*$!iax:[2001:db8::1]:4569/alice?friends!" . )
```

This NAPTR resource record indicates that +442079460149 may be contacted by using the IAX protocol at IPv6 address 2001:db8::1, port 4569 with the called party 'alice' in the context (or user partition) 'friends'. For further usage of IAX URIs, see Section 5 of [RFC5456].

4. Security Considerations

The 'iax' Enumservice does not introduce any new security issues beyond any already present in the ENUM, DNS, and IAX protocols, except that this Enumservice provides for disclosure of information that may facilitate an attack or a violation of user privacy in some way. The primary result of these exploits is unwanted communications. These issues are discussed in further detail in [RFC3833].

The use of DNS Security (DNSSEC) [RFC4033] is recommended to improve operational security.

For security considerations that apply to all Enumservices, please refer to RFC 6116, Section 7.

5. IANA Considerations

This document registers the 'iax' Enumservice according to the guidelines and specifications in [RFC6117] and the definitions in Section 2 in this document.

6. DNS Considerations

Misconfiguration or delays in zone changes can result in call loops, perhaps with different protocols or networks. Implementations should take care to ensure such loops can be detected without interrupting other services, including SIP-based, IAX-based, and DNS itself.

7. Acknowledgments

This work was supported by Internet Foundation Austria. In addition, thanks to Michael Haberler, Bernie Hoeneisen, and Richard Stastny for their support and guidance in writing this document.

8. References

8.1. Normative References

[RFC3986] Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform Resource Identifier (URI): Generic Syntax", STD 66, RFC 3986, January 2005.

[RFC5456] Spencer, M., Capouch, B., Guy, E., Ed., Miller, F., and K. Shumard, "IAX: Inter-Asterisk eXchange Version 2", RFC 5456, February 2010.

[RFC6116] Bradner, S., Conroy, L., and K. Fujiwara, "The E.164 to Uniform Resource Identifiers (URI) Dynamic Delegation Discovery System (DDDS) Application (ENUM)", RFC 6116, March 2011.

[RFC6117] Hoeneisen, B., Mayrhofer, A., and J. Livingood, "IANA Registration of Enumservices: Guide, Template, and IANA Considerations", RFC 6117, March 2011.

8.2. Informative References

[E164] ITU-T, "The International Public Telecommunication Numbering Plan", Recommendation E.164, May 1997.

[RFC1035] Mockapetris, P., "Domain names - implementation and specification", STD 13, RFC 1035, November 1987.

[RFC3833] Atkins, D. and R. Austein, "Threat Analysis of the Domain Name System (DNS)", RFC 3833, August 2004.

[RFC4033] Arends, R., Austein, R., Larson, M., Massey, D., and S. Rose, "DNS Security Introduction and Requirements", RFC 4033, March 2005.

Authors' Addresses

Ed Guy
CleverSpoke
12 Williams Road
Chatham, NJ 07928
US

Phone: +1 973 437 4519
EMail: edguy@CleverSpoke.com
URI: http://www.cleverspoke.com/

Klaus Darilion
nic.at
Karlsplatz 1/2/9
1010 Wien
Austria

Phone: +43 1 5056416 36
EMail: klaus.darilion@nic.at
URI: http://www.nic.at/