

ENUM -- Telephone Number Mapping  
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IANA Registration for Enumservice foaf  
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Abstract

This memo registers the Enumservice "foaf" using the URI schemes "http" and "https" according to the IANA Enumservice registration process defined in [RFC3671](#). The Enumservice "foaf" is to be used to refer from an ENUM domain name to the location of a FOAF RDF file using the corresponding E.164 telephone number.

Clients may use data retrieved from a FOAF RDF file to provide caller

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or callee with information available within the Friend-Of-A-Friend (FOAF) Semantic Web application. For example, the caller might be presented with personal information on the callee (e.g. name, gender and various online attributes) as well as information on the callee's social context (e.g. relations to friends or colleagues). Information collected from FOAF can be used before, during or after a communication is established.

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## 1. Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [\[5\]](#).

## 2. Introduction

ENUM [\[1\]](#) uses the Domain Name System (DNS) [\[3\]](#) for mapping E.164 telephone numbers [\[13\]](#) to Uniform Resource Identifiers (URIs) [\[4\]](#). Therefore E.164 numbers are converted to ENUM domain names through means described further in [RFC3761](#).

'Friend-Of-A-Friend' (FOAF) [\[2\]](#) describes a Semantic Web [\[16\]](#) project for machine-readable modelling of homepage-like content and social networks. The FOAF specification defines terms to be used in statements someone can make about someone else, such as name, gender and various online attributes, e.g. e-mail address, instant messaging identifier, VoIP address or web URL. FOAF is based on the Resource Description Framework (RDF) [\[11\]](#) defined using the Web Ontology Language (OWL) [\[12\]](#). Typically, the FOAF RDF file is named foaf.rdf and made publicly available on the Web. The usage of FOAF to describe people and their relationships has become popular amongst bloggers and in emerging Web 2.0 applications.

Integrating FOAF and ENUM [\[14\]](#) potentially offers a variety of Semantic Web applications [\[15\]](#) to be accessed by means of a telephone number. The introduction of a specific Enumservice dedicated to FOAF significantly eases that integration.

This memo registers an Enumservice according to the guidelines given in [RFC3761](#) to be used for provisioning in the services field of a NAPTR [\[13\]](#) resource record to indicate what class of functionality a given end point offers. The registration is defined within the Dynamic Delegation Discovery System (DDDS) [\[6\]](#) [\[7\]](#) [\[8\]](#) [\[9\]](#) [\[10\]](#)

hierarchy, for use with the "E2U" DDDS application defined in [RFC3761](#).

This memo registers the Enumservice "foaf" using the URI schemes "http" and "https" according to the IANA Enumservice registration process defined in [RFC3671](#). The Enumservice "foaf" is to be used to refer from an ENUM domain name to the location of a FOAF RDF file using the corresponding E.164 telephone number.

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### [3.](#) Enumservice Registrations - foaf

The Enumservice registered in this section indicates that the resource identified by the associated URI is a source of FOAF data.

Enumservice Name: "foaf"

Enumservice Type: "foaf"

Enumservice Subtype: N/A

URI Schemes: "http", "https"

#### Functional Specification:

This Enumservice indicates that the resource identified by the associated URI is a source of FOAF data. If the URI scheme "https" is used, the resource can be fetched by using TLS or the Secure Socket Layer protocol.

Security Considerations: see [Section 5](#)

Intended Usage: COMMON

Authors: Kurt Reichinger (see 'Authors' section for contact details)

### [4.](#) Example

An example ENUM entry referring to a FOAF RDF file could look like

following:

```
$ORIGIN 1.0.1.1.1.1.5.5.5.0.8.7.3.4.e164.arpa.  
@ IN NAPTR 100 10 "u" "E2U+foaf" !^.*$!http://foo.bar/foaf.rdf!" .
```

Performing an ENUM query for the Austrian E.164 telephone number +43780555111101 will result in a referral to the web URL <http://foo.bar/foaf.rdf> indicating that a FOAF RDF file associated with that telephone number can be accessed there.

## 5. Security & Privacy Considerations

### 5.1. ENUM Record

With ENUM utilising the DNS - a globally distributed and publicly accessible database - all information contained in DNS records must be considered publicly available. Thus, data can be harvested, stored and re-used by third parties, e.g. for generating lists of

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targets for sending of unrequested information. This could result in being targeted with SPAM (e-mail), SPIT (VoIP calls), junk fax, junk SMS or other unwanted information. Even after removing the DNS entry and the referred resource, copies of the information could still be available.

Information published in ENUM records could reveal associations between E.164 numbers and their owners - especially if DNS records contain personal identifiers or domain names for which ownership information can easily be obtained.

However, it is important to note that the ENUM record itself does not need to contain any personal information. It just points to a location where access to personal information could be granted.

ENUM records pointing to third party resources can easily be provisioned on purpose by the ENUM domain owner - so any assumption about the association between a number and an entity could therefore be completely bogus unless some kind of identity verification is in place. This verification is out of scope for this memo.

### 5.2. FOAF File

FOAF files describe persons and online communities explicitly focusing on making the content easily machine-readable, which makes FOAF potentially vulnerable to automated data collecting (by e.g. crawlers or scutters). Furthermore, in most application scenarios FOAF relies on information being publicly available on the Web, although use cases in closed environments are possible as well.

FOAF files potentially contain links to a rich variety of personal data making it of interest to data harvesters, e.g. for generating lists of targets for unrequested information. This could result in being targeted with SPAM (e-mail), SPIT (VoIP calls), "junk" fax, "junk" SMS or other unwanted information. Even after removing the FOAF RDF file and referred resources, copies of the information could still be available.

Content, administration and publication of FOAF RDF files is under the responsibility of the individual FOAF RDF file owner. FOAF files easily can be created and published on the Web by anyone - so any assumption about data from a FOAF RDF file and an entity could therefore be completely bogus unless some kind of identity verification is in place. This verification is out of scope for this memo.

## 6. IANA Considerations

This memo requests registration of the "foaf" Enumservice according to the definitions in this document and [RFC3761](#).

## 7. References

### 7.1. Normative References

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## 7.2. Informative References

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