Status Update on IETF ENUM WG & IANA Registration of Enumservices

by Bernie Hoeneisen

Co-Chair of IETF (Ex-)ENUM WG & IESG Designated Expert

Ucom Standards Track Solutions GmbH
http://www.ucom.ch/

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Table Of Contents

- Status update IETF ENUM WG

- IANA Registration of Enumservices (RFC 6117)
    - Goals / Motivation
    - What's new?
    - Content of Enumservice Specifications
    - Registration Process
    - Updates / Deletions

- Conclusions

- Q & A / Discussion

- Links / Contact

Status Update IETF ENUM (1/2)

- The "ENUM Trilogy" has been published:

  - RFC 6116

    The E.164 to Uniform Resource Identifiers (URI) Dynamic Delegation Discovery System (DDDS) Application (ENUM)

  - **RFC 6117**

    IANA Registration of Enumservices:
    Guide, Template, and IANA Considerations

  - RFC 6118

    Update of Legacy IANA Registrations of Enumservices

Status Update IETF ENUM (2/2)

- **IETF ENUM WG** was **concluded** during IETF-80
  - Mission completed
  - Outlived its useful life (after 12 years...)

- Remaining documents
  - *draft-ietf-enum-iax*
    - IANA Registration for Enumservice 'iax'
    - Approved by the IESG (last week)
  - *draft-hoeneisen-rfc5333bis*
    - Update of RFC 5333 (IANA Registration of Enumservices for Internet Calendaring)
    - Candidate for IETF APPAREA WG document

Enumservices In Short

- Needed for each service used with ENUM
- Examples
    - sip [sip | sips]
    - h323 [h323]
    - vcard [http | https]
    - email:mailto [mailto]
    - web:https [https]
    - …
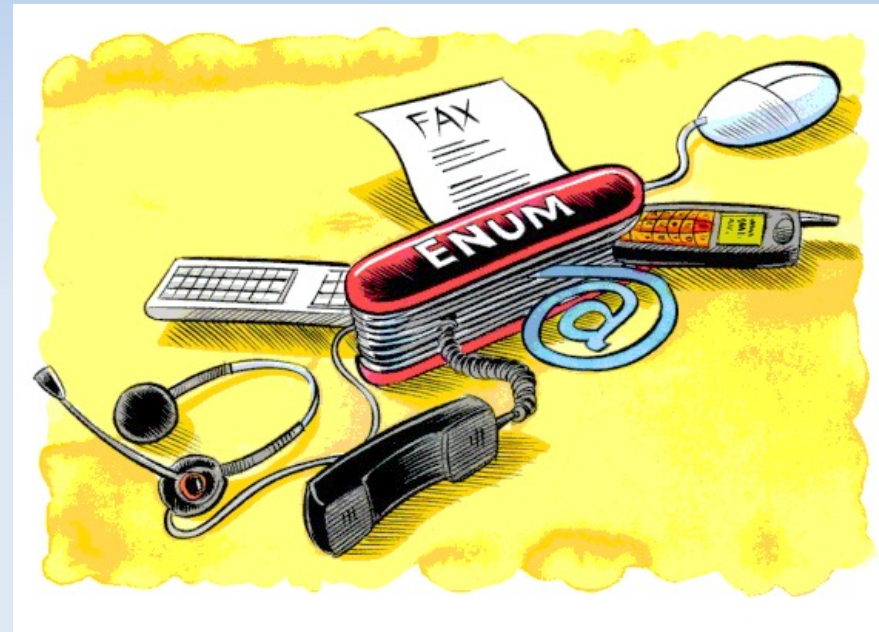
Source: SWITCH

- On the wire:

```
$ORIGIN 3.2.1.0.5.5.5.2.1.2.1.e164.arpa.
@ NAPTR 10 90 "u" "E2U+sip" "!^.*$!sips:me@ucom.ch!" .
```

- All Enumservices registered with IANA
    - http://www.iana.org/assignments/enum-services

RFC 6117 – In Short

- IANA Registration of Enumservices: Guide, Template, and IANA Considerations (RFC 6117)
  - Specifies a revision of the IANA Registration Guidelines for Enumservices
  - Describes corresponding registration procedures
  - Provides a guideline for creating Enumservice Specifications
- Obsoletes IANA registration part of RFC 3761
- Published in March 2011
  - Part of the "ENUM Trilogy"
  - *After five years of hard work...*

RFC 6117 – Goals / Motivation

- IETF's ENUM Working Group:
  - Harmonize the variation in the format of Enumservice Specifications
  - Reflect the evolution of Enumservices
  - Capture best current practices

- Authors of (new) Enumservices:
  - Clear instructions on
    - How to register an Enumservice with IANA
    - How to write an Enumservice Specification

RFC 6117 – What's New?

- For an Enumservice to be inserted to the IANA registry:
  - "Specification Required", which implies the use of a Designated Expert, are now sufficient
    - RFC 3761 required a RFC on Standards Track, an Experimental RFC, or as a BCP

- New elements in IANA Registration Template:
  - Enumservice Class
  - Enumservice Specification

RFC 6117 – Content of Specs

- Enumservice Specifications contain the following sections:
  - Introduction [R]
  - **IANA Registration (XML Template) [R]**
  - Examples [R]
  - Implementation Recommendations / Notes [O]
  - DNS Considerations [R]
  - Security Considerations [R]
  - IANA Considerations [R]
  - Other Sections [O]
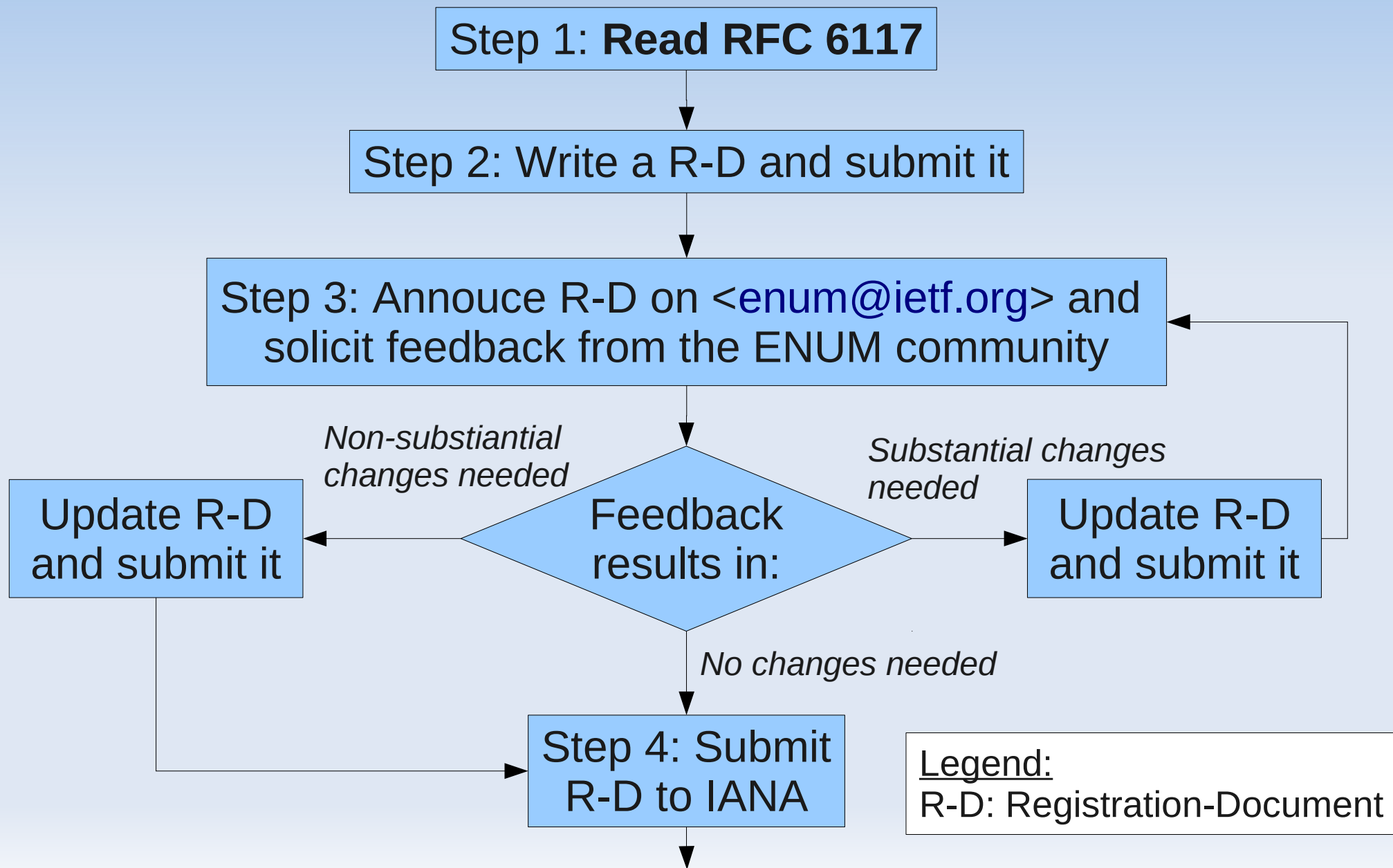
Legend:
[R]: Required
[O]: Optional

RFC 6117 – Registration Template

- The IANA Registration Template (XML chunk) consists of the following elements:
    - Enumservice Class (<class>)
    - Enumservice Type (<type>)
    - Enumservice Subtype (<subtype>)
    - URI Scheme(s) (<urischeme>)
    - Functional Specification (<functionalspec>)
    - Security Considerations (<security>)
    - Intended Usage (<usage>)
    - Enumservice Specification (<registrationdocs>)
    - Requesters (<requesters>)
    - Further Information (<additionalinfo>)

RFC 6117 – Example Template
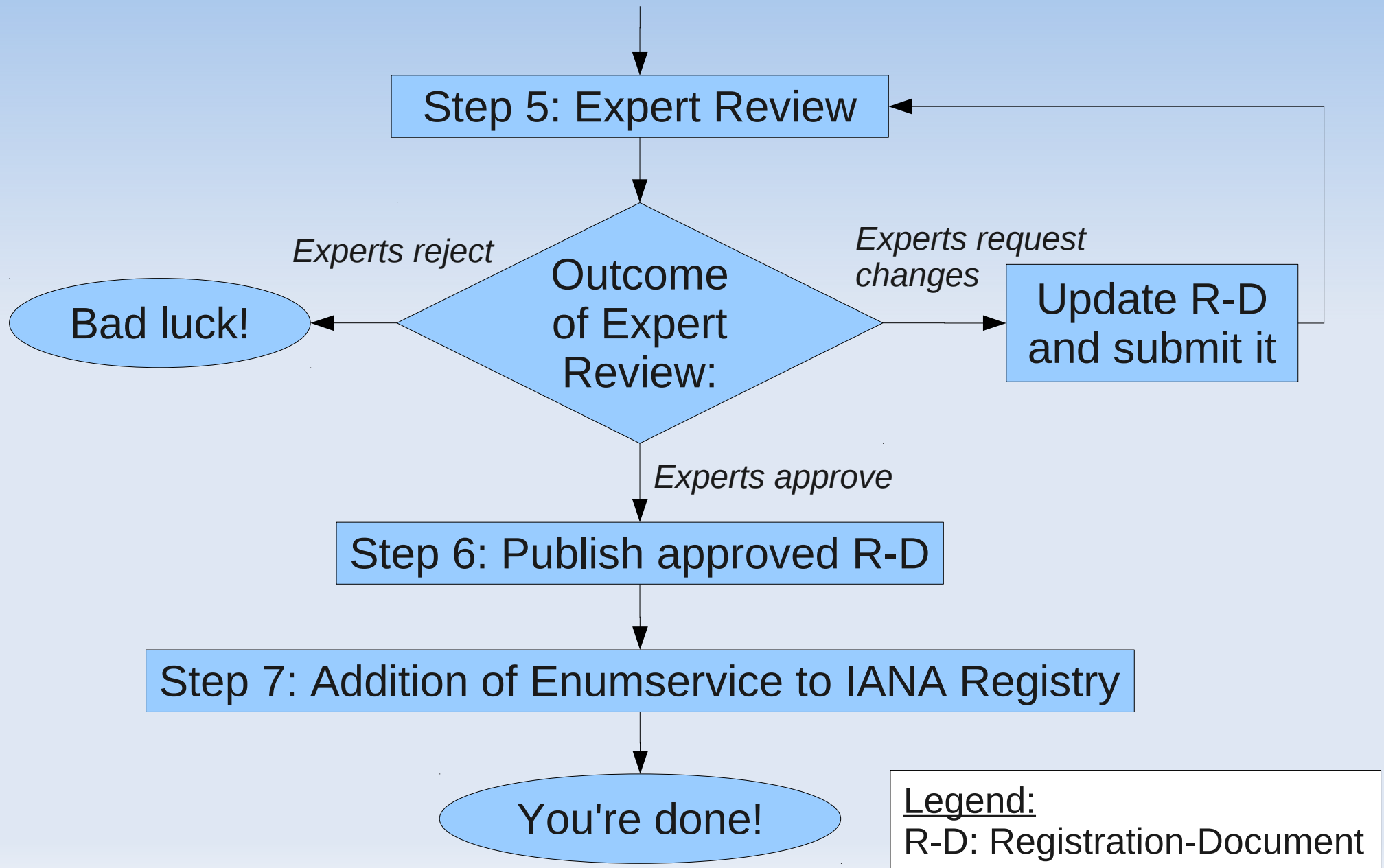
```
<record>
  <class>Protocol-Based</class>
  <type>iax</type>
  <urischeme>iax</urischeme>
  <functionalspec>
    <paragraph>
      The 'iax' Enumservice is used to map E.164 numbers to IAX URIs. Such
      URIs identify resources capable of being contacted to provide a
      communication session 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="rfc5513"/>, Section 4.</security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5513"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Ed_Guy"/>
    <xref type="person" data="Klaus_Darilion"/>
  </requesters>
</record>
```

RFC 6117 – Registration Process

Step 1: **Read RFC 6117**

Step 2: Write a R-D and submit it

Step 3: Annouce R-D on <enum@ietf.org> and solicit feedback from the ENUM community

Non-substiantial changes needed

Substantial changes needed

Update R-D and submit it

Feedback results in:

Update R-D and submit it

No changes needed

Step 4: Submit R-D to IANA

Legend:
R-D: Registration-Document

RFC 6117 – Registration Process

Step 5: Expert Review

Outcome of Expert Review:

Experts reject → Bad luck!

Experts request changes → Update R-D and submit it

Experts approve

Step 6: Publish approved R-D

Step 7: Addition of Enumservice to IANA Registry

You're done!

Legend:
R-D: Registration-Document

RFC 6117 – Updates / Deletions

- Updates of Enumservice Specifications
  - Same process as for initial registrations

- Deletions of Enumservices
  - Enumservices are not removed from the IANA registry
  - Instead, the <usage> element is changed to OBSOLETE
  - Same process as for initial registrations (or by IESG Action)

Wrap-Up / Conclusions

- IETF ENUM WG concluded
  - Mission completed

- Process for IANA registration of Enumservices got easier (lowered barrier)
  - Speed up

- Content of Enumservice Specifications got more exhaustive
  - Improvement in quality
  - Clear instructions on how to write a specification

- Specification no longer need to be RFC
  - Though, RFC is still recommended

Q & A / Discussion

Contact

- Email:
  Bernie Hoeneisen <bernhard.hoeneisen@ucom.ch>

- WWW:
  http://www.ucom.ch/

- Phone:
  +41 44 500 52 44

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