Registration Procedures for URL Scheme Names

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Abstract

   This document defines the process by which new URL scheme names are
   registered.

1.0 Introduction

   A Uniform Resource Locator (URL) is a compact string representation
   of the location for a resource that is available via the Internet.
   RFC 2396 [1] defines the general syntax and semantics of URIs, and,
   by inclusion, URLs. URLs are designated by including a "<scheme>:"
   and then a "<scheme-specific-part>". Many URL schemes are already
   defined, however, new schemes may need to be defined in the future
   in order to accommodate new Internet protocols and/or procedures.

A registration process is needed to ensure that the names of all
such new schemes are guaranteed not to collide. Further, the
registration process ensures that URL schemes intended for wide
spread, public use are developed in an orderly, well-specified, and
public manner.

This document defines the registration procedures to be followed
when new URL schemes are created. A separate document, RFC
[URL-GUIDELINES], Guidelines for URL Schemes [2], provides
guidelines for the creation of new URL schemes. The primary focus
of this document is on the <scheme> portion of new URL schemes,
referred to as the "scheme name" throughout this document.

2.0 URL Scheme Name Registration Trees

2.1 General

In order to increase the efficiency and flexibility of the URL
scheme name registration process, the need is recognized for
multiple registration "trees". The registration requirements and
specific registration procedures for each tree differ, allowing the
overall registration procedure to accommodate the different natural
requirements for URL schemes. For example, a scheme that will be
recommended for wide support and implementation by the Internet
community requires a more complete review than a scheme intended to
be used for resources associated with proprietary software.

The first step in registering a new URL scheme name is to determine
which registration tree the scheme should be registered in.
Determination of the proper registration tree is based on the
intended use for the new scheme and the desired syntax for the
scheme name.

This document will discuss in detail the tree that reflects current
practice, under IETF ownership and control. It will also set forth
an outline to assist authors in creating new trees to address
differing needs for wide acceptance and interoperability, ease of
creation and use, and type and "strength" of ownership.

2.2 The IETF Tree

The IETF tree is intended for URL schemes of general interest to the
Internet community. The tree exists for URL schemes that require a
substantive review and approval process. It is expected that
applicability statements for particular applications will be
published from time to time that recommend implementation of, and
support for, URL schemes that have proven particularly useful in
those contexts.

[2.3] Additional Registration Trees

From time to time and as required by the community, the IESG may
create new top-level registration trees. These trees may require
significant, little or no registration, and may allow change control
to rest in the hands of individuals or groups other than IETF. A
new tree should only be created if no existing tree can be shown to
address the set of needs of some sector of the community.

[3.0] Requirements for Scheme Name Registration

[3.1] General Requirements

All new URL schemes, regardless of registration tree, MUST conform
to the generic syntax for URLs as specified in [RFC 2396].

[3.2] The IETF Tree

Registration in the IETF tree requires publication of the URL scheme
syntax and semantics in either an Informational or Standards Track
RFC.

The NAMES of schemes registered in the IETF tree MUST NOT contain
the dash (also known as the hyphen and minus sign) character ('-')
USASCII value 2Dh. Use of this character can cause confusion with
schemes registered in alternative trees (see [section 3.3]).

An analysis of the security issues inherent in the new URL scheme is
REQUIRED. (This is in accordance with the basic requirements for
all IETF protocols.) There is absolutely no requirement that all
URL schemes registered in the IETF tree be secure or completely free
from risks. Nevertheless, all known security risks must be
identified.

The "owner" of a URL scheme name registered in the IETF tree is
assumed to be the IETF itself. Modification or alteration of the
specification requires the same level of processing (e.g.
Informational or Standards Track RFC) as used for the initial
registration. Schemes originally defined via an Informational RFC
may, however, be replaced with Standards Track documents.

[3.3] Alternative Trees

While public exposure and review of a URL scheme created in an
alternative tree is not required, using the IETF Internet-Draft
mechanism for peer review is strongly encouraged to improve the
quality of the specification. RFC publication of alternative tree

URL schemes is encouraged but not required. Material may be
published as an Informational RFC by sending it to the RFC Editor
(please follow the instructions to RFC authors, RFC 2223 [3]).

The defining document for an alternative tree may require public
exposure and/or review for schemes defined in that tree via a
mechanism other than the IETF Internet-Draft mechanism.

URL schemes created in an alternative tree must conform to the
generic URL syntax, RFC 2396. The tree's defining document may set
forth additional syntax and semantics requirements above and
beyond those specified in RFC 2396.

All new URL schemes SHOULD follow the Guidelines for URL Schemes,
set forth in RFC [URL-GUIDELINES] [2].

An analysis of the security issues inherent in the new URL scheme is
encouraged. Regardless of what security analysis is or is not
performed, all descriptions of security issues must be as accurate
as possible. In particular, a statement that there are "no security
issues associated with this scheme" must not be confused with "the
security issues associates with this scheme have not been assessed"
or "the security issues associated with this scheme cannot be
predicted because of <reason>".

There is absolutely no requirement that URL schemes created in an
alternative tree be secure or completely free from risks.
Nevertheless, the tree's defining document must set forth the
standard for security considerations, and in any event all known
security risks SHOULD be identified.

Change control must be defined for a new tree. Change control may
be vested in the IETF, or in an individual, group or other entity.
The change control standard for the tree must be approved by the
IESG.

The syntax for alternative trees shall be as follows: each tree will
be identified by a unique prefix, which must be established in the
same fashion as a URL scheme name in the IETF tree, except that the
prefix must be defined by a Standards Track document. Scheme names
in the new tree are then constructed by prepending the prefix to an
identifier unique to each scheme in that tree, as prescribed by that
tree's identifying document:

   <prefix>'-'<tree-specific identifier>

For instance, the "foo" tree would allow creation of scheme names of
the form: "foo-blahblah:" and "foo-bar:", where the tree prescribes
an arbitrary USASCII string following the tree's unique prefix.

4.0 Registration Procedures

4.1 The IETF Tree

   The first step in registering a new URL scheme in the IETF tree is
   to publish an IETF Internet-Draft detailing the syntax and
   semantics of the proposed scheme. The draft must, minimally,
   address all of the items covered by the template provided in section
   6 of this document.

   After all issues raised during a review period of no less than 4
   weeks have been addressed, submit the draft to the IESG for review.

   The IESG will review the proposed new scheme and either refer the
   scheme to a working group (existing or new) or directly present the
   scheme to the IESG for a last call. In the former case, the working
   group is responsible for submitting a final version of the draft to
   the IESG for approval at such time as it has received adequate
   review and deliberation.

4.2 Alternative Trees

   Registration of URL schemes created in an alternative tree may be
   formal, through IETF documents, IANA registration, or other
   acknowledged organization; informal, through a mailing list or
   other publication mechanism; or nonexistent. The registration
   mechanism must be documented for each alternative tree, and must be
   consistent for all URL scheme names created in that tree.

   It is the responsibility of the creator of the tree's registration
   requirements to establish that the registration mechanism is
   workable as described; it is within the discretion of the IESG to
   reject the document describing a tree if it determines the
   registration mechanism is impractical or creates an undue burden on
   a party who will not accept it. (For instance, if an IANA
   registration mechanism is proposed, IESG might reject the tree if
   its mechanism would create undue liability on the part of IANA.)

   While the template in section 6 of this document is intended to
   apply to URL scheme names in the IETF tree, it is also offered as a
   guideline for those documenting alternative trees.

5.0 Change Control

5.1 Schemes in the IETF Tree

   URL schemes created in the IETF tree are "owned" by the IETF itself
   and may be changed, as needed, by updating the RFC that describes
   them. Schemes described by Standards Track RFC but be replaced with
   new Standards Track RFCs. Informational RFCs may be replaced by new

Informational RFCs or Standards Track RFCs.

5.2 Schemes in Alternative Trees

URL schemes in an alternative tree that are undocumented (as allowed by that tree's rules) may be changed by their owner at any time without notifying the IETF.

URL schemes created in an alternative tree that have been documented by an Informational RFC, may be changed at any time by the owner, however, an updated Informational RFC which details the changes made, must be submitted to the IESG.

The owner of a URL scheme registered in an alternative tree and documented by an Informational RFC may pass responsibility for the registration to another person or agency by informing the IESG.

The IESG may reassign responsibility for a URL scheme registered in an alternative tree and documented by an Informational RFC. The most common case of this will be to enable changes to be made to schemes where the scheme name is privately owned by the rules of its tree, and the owner of the scheme name has died, moved out of contact or is otherwise unable to make changes that are important to the community.

The IESG may reclassify a URL scheme created in an alternative tree and documented via an Informational RFC as "historic" if it determines that the scheme is no longer in use.

6.0 Registration Template

The following issues should be addressed when documenting a new URL scheme:

URL scheme name.

URL scheme syntax. This should be expressed in a clear and concise manner. The use of ABNF is encouraged. Please refer to RFC [URL-GUIDELINES] for guidance on designing and explaining your scheme's syntax.

Character encoding considerations. It is important to identify what your scheme supports in this regard. It is obvious that for interoperability, it is best if there is a means to support character sets beyond USASCII, but especially for private schemes, this may not be the case.

Intended usage. What sort of resource is being identified? If this is not a 'resource' type of URL (e.g. mailto:), explain the action that should be initiated by the consumer of the URL. If

there is a MIME type associated with this resource, please
identify it.

Applications and/or protocols which use this URL scheme name.
Including references to documentation which defines the
applications and/or protocols cited is especially useful.

Interoperability considerations. If you are aware of any details
regarding your scheme which might impact interoperability, please
identify them here. For example: proprietary or uncommon
encoding method; inability to support multibyte character sets;
incompatibility with types or versions of underlying protocol
(if scheme is tunneled over another protocol).

Security considerations.

Relevant publications.

Person & email address to contact for further information.

Author/Change controller.

Applications and/or protocols which use this URL scheme name.

7.0 Security Considerations

Information that creates or updates a registration needs to be
authenticated.

Information concerning possible security vulnerabilities of a
protocol may change over time. Consequently, claims as to the
security properties of a registered URL scheme may change as well.
As new vulnerabilities are discovered, information about such
vulnerabilities may need to be attached to existing documentation,
so that users are not misled as to the true security properties of a
registered URL scheme.

If the IESG agrees to delegate the registration and change control
functions of an alternative tree to a group or individual outside of
the IETF, that group or individual should have sufficient security
procedures in place to authenticate registration changes.

8.0 References

[1] Berners-Lee, T., Fielding, R., Masinter, L., "Uniform Resource
     Identifiers (URI): Generic Syntax", RFC 2396, August 1998

[2] Masinter, L., Alvestrand, H., Zigmond, D., Petke, R.,

          "Guidelines for new URL Schemes", RFC [URL-GUIDELINES], August
          1998

     [3] Postel, J., Reynolds, J., "Instructions to RFC Authors",
          RFC 2223, October 1997.

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