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Content Feature Tag Registration Procedure

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ABSTRACT

Recent Internet applications, such as the World Wide Web, tie together a great diversity in data formats, client and server platforms, and communities. This has created a need for content feature descriptions and negotiation mechanisms in order to identify and reconcile the form of information to the capabilities and preferences of the parties involved.

Extensible content feature identification and negotiation mechanisms require a common vocabulary in order to positively identify content features. A registration process and authority for content features is defined with the intent of sharing this vocabulary between

communicating parties. In addition, a URI tree is defined to enable sharing of content feature definitions without registration.

This document defines a registration procedure which uses the Internet Assigned Numbers Authority (IANA) as a central registry for the content feature vocabulary.

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[1](#) Introduction

Recent Internet applications, such as the World Wide Web, tie together a great diversity in data formats, client and server platforms, and communities. This has created a need for content feature descriptions and negotiation mechanisms in order to identify and reconcile the form of information to the capabilities and preferences of the parties involved.

Extensible content feature identification and negotiation mechanisms require a common vocabulary in order to positively identify content features. A registration process and authority for content features is defined with the intent of sharing this vocabulary between

communicating parties. In addition, a URI tree is defined to enable sharing of content feature definitions without registration.

This document defines a registration procedure which uses the Internet Assigned Numbers Authority (IANA) as a central registry for the content feature vocabulary.

[2](#) Feature tag definitions

[2.1](#) Feature tag purpose

Content feature tags represent individual and simple dimensions of feature capability. Examples of content features related to media are:

- * the color depth of the screen on which something is to be displayed
- * the support of the 'floating 5 dimensional tables' feature
- * the type of paper available in a printer
- * the fonts which are available to the recipient
- * the capability to display graphical content

A feature tag identifies a single dimension of characteristic. Feature tag values should be represented as (and must be representable or isomorphic to) boolean, enumerated values, or numeric values. Examples of feature tags are defined in detail elsewhere [\[4\]](#).

Many features are not Boolean and require values to qualify them. Examples of feature tags with values are:

- * the width of a display in pixels represented as an integer value.
- * the fonts available to a recipient as an enumerated list.
- * the version of a protocol composed of integers "i.j.k", defined as either a value in an enumerated list or isomorphic to the integer numeric value *ijk*.

Complex features should be composed using a number of individual content feature tags [\[2\]](#). Composition of complex features is described elsewhere [\[2\]](#). Examples of complex features requiring multiple feature tags are:

- * the width and height of a display
- * the combination of color depth and resolution a display can support

Features of content already described and registered (such as MIME types) should not be registered again.

The feature tag namespace is not bound to a particular transport protocol or capability exchange mechanism. There is no restriction on the type of content feature which may be identified by a feature tag,

other than the intent of expressing a capability or a preference regarding a presentation-related feature of content. Feature tags indicating political or social context are not appropriate.

[2.2](#) Feature tag syntax

A feature tag is a string consisting of one or more of the following US-ASCII characters: uppercase letters, lowercase letters, digits, colon (":"), slash ("/"), dot (".") and dash ("-"). Feature tags are case-insensitive. Dots are understood to potentially imply hierarchy; a feature can be subtyped by describing it as `tree.feature.subfeature` and by indicating this in the feature registration.

A feature tag value is a string consisting of one or more of the following US-ASCII characters: uppercase letters, lowercase letters, digits, colon (":"), slash("/"), dot("."), and dash ("-"). Values are case-insensitive. Feature tag values should be simple atomic values of either enumerated or numeric form and must be isomorphic with either enumerated or numeric values. The form of feature tag values is indicated upon feature registration.

[3](#) Feature tag registration

Feature tags can be registered in several different registration trees, with different requirements as discussed below. In general, a feature tag registration proposal is circulated and reviewed in a fashion appropriate to the tree involved. The feature tag is then registered if the proposal is accepted. Review of a feature tag registration in the URI tree is not required.

[3.1](#) Registration trees

The following subsections define registration "trees", distinguished by the use of faceted names (e.g., names of the form "tree.feature-name").

[3.1.1](#) IETF tree

The IETF tree is intended for feature tags of general interest to the Internet Community. Registration in the IETF tree requires approval by the IESG and publication of the feature tag specification as an RFC. Submissions for feature tag registration in the IETF tree can originate in any WG of IETF.

Feature tags in the IETF tree normally have names that are not explicitly faceted, i.e., do not contain period (".", full stop) characters.

The "owner" of a feature tag 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. standards track) required for the initial registration.

[3.1.2](#) Global tree

Tags in the global tree will be distinguished by the leading facet "g.". That may be followed, at the discretion of the registration, by either a designation indicative of the feature, (e.g., "g.blinktags") or by an IANA-approved designation of the producer's name which is then followed by a designation of the feature (e.g., g.bigcompany.obscurefeature).

Registration of a new content feature tag in the global tree is initiated by the submission of a registration proposal to IANA. The global tree is intended for feature tags of general interest to the Internet Community. Unlike registration in the IETF tree, registration in the global tree does not imply or require approval by the IESG. A registration may be placed in the global tree by anyone who has the need to allow for communication on a particular capability or preference.

If the creator of an Internet service or product introduces a new content feature to the Internet Community, and if it is meaningful to identify a content feature tag with it, the feature can be associated with a feature tag by registration in the global tree.

Registration of a content feature tag does not in itself imply any form of ownership or control of the underlying feature by the originator of the registration.

The owner of "global" content feature tag is the person or entity making the registration, or one to whom responsibility has been transferred as described below.

While public exposure and review of feature tags to be registered in the global tree is not required, using the ietf-feature-tags@iana.org list for review is strongly encouraged to improve the quality of those specifications.

[3.1.3](#) URI tree

A feature tag may be defined as a URI using the restricted character set defined above. Feature tags in the URI tree are identified by the leading facet "u.". The author of the URI is assumed to be registration authority regarding features defined and described by the content of the URI. These tags are considered unregistered for the purpose of this document.

[3.1.4](#) Additional registration trees

From time to time and as required by the community, the IANA may, with the advice and consent of the IESG, create new top-level registration trees. These trees may be created for external registration and management by (for example) well-known permanent bodies, such as scientific societies for content feature types specific to the sciences they cover. Establishment of these new trees will be announced through RFC publication approved by the IESG.

[3.2](#) Location of registered feature tag list

Feature tag registrations will be posted in the anonymous FTP directory "ftp://ftp.isi.edu/in-notes/iana/assignments/feature-tags/" and all registered feature tags will be listed in the periodically issued "Assigned Numbers" RFC [currently STD 2, [RFC-1700](#)]. The feature tag description and other supporting material may also be published as an Informational RFC by sending it to "rfc-editor@isi.edu" (please follow the instructions to RFC authors [RFC-1543]).

[3.3](#) IANA procedures for registering feature tags

The IANA will only register feature tags in the IETF tree in response to a communication from the IESG stating that a given registration has been approved.

Global tags will be registered by the IANA automatically and without any formal review as long as the following minimal conditions are met:

- (1) A feature tag must serve as an actual identifier of an area of content feature or capability.
- (2) A feature tag name must be unique, and must conform to the syntax in [section 2](#).
- (3) An openly available description of the feature or capability is minimally required. The specification of a feature tag must state whether the choice in the indicated area is a simple yes/no choice, a numeric value, or a choice among enumerated or multiple values. If the choice is among multiple values, and a canonical format for these values is defined, these values must conform to the syntax in [section 2](#).
- (4) Any security considerations given must not be obviously bogus. (It is neither possible nor necessary for the IANA to conduct a comprehensive security review of feature tag registrations. Nevertheless, the IANA has the authority to identify obviously incompetent material and exclude it.)

3.4 Registration template

To: ietf-feature-tags@iana.org (Feature tags mailing list)
(or directly to iana@iana.org)
Subject: Registration of feature tag XXXX

| Instructions are preceded by `|'. Some fields are optional.

Content feature tag name:

Summary of the content feature indicated by this feature tag:

| Include a short (no longer than 4 lines) description or summary
| Examples:
| `Use of the xyzzy feature is indicated by ...'
| `Support of color display is indicated by ...'
| `Number of colors in a palette which can be defined ...'

Number of possible values associated with this feature tag:

- [] 1. The feature tag is Boolean and the feature tag has no associated value. The tag indicates presence (or absence) of the feature.
- [] 2. The feature has an associated numeric or enumerated value.

For case 1: describe the nature of the `yes' and `no' alternatives:

For case 2: How is a single alternative result naturally identified?

- [] 2a. With a name, keyword, label, or tag (e.g. a language tag)
- [] 2b. With an integer value
- [] 2c. With a numeric value of a non-integer type (e.g. float)
- [] 2d. Other (must be isomorphic to 2a, 2b, or 2c.)

(Only for case 2) Detailed description of the feature value meaning, and of the format (for 2a,2d) and meaning of the feature tag values for the alternative results:

| If the number of alternative results is small, the description
| could simply enumerate the identifiers of the different results
| and describe their meaning.
|
| If there is a limited useful numeric range of result (2b, 2c),
| indicate the range.
|
| The identifiers of the alternative results could also be
| described by referring to another IANA registry, for example

| the MIME media type registry.

Expected value or behavior in the absence of the feature tag (if applicable):

The feature tag is intended primarily for use in the following applications, protocols, services, or negotiation mechanisms:
[optional]

| For applications, also specify the number of the first version
| which will use the tag, if applicable.

Examples of typical use: [optional]

Related standards or documents: [optional]

Considerations particular to use in individual applications,
protocols, services, or negotiation mechanisms: [optional]

Interoperability considerations: [optional]

Security considerations:

Privacy concerns, related to exposure of personal information:

Denial of service concerns related to consequences of specifying
incorrect values:

Other:

Additional information: [optional]

Keywords: [optional]

Related feature tags: [optional]

Related media types or data formats: [optional]

Related HTML markup tags: [optional]

Person & email address to contact for further information:

Intended usage:

| one of COMMON, LIMITED USE or OBSOLETE

Author/Change controller:

Requested IANA publication delay: [optional]

| A delay may only be requested for registration in global or

| local trees, with a maximum of two months.

Other information: [optional]

| Any other information that the author deems interesting may be
| added here.

[4](#) Security considerations

When used, negotiation mechanisms usually reveal some information about one party to other parties. This may raise privacy concerns, and may allow a malicious party to make more educated guesses about the presence of security holes in the other party.

[5](#) Acknowledgments

The details of the registration procedure in this document were directly adapted from [\[1\]](#). Much of the text in [section 3](#) was directly copied from this source.

The idea of creating a vocabulary of areas of content features, maintained in a central open registry, is due to discussions on extensible negotiation mechanisms [\[3\]](#) in the IETF HTTP working group. The authors wish to thank Ted Hardie, Larry Masinter and Graham Klyne for contributing to discussions about feature tag registration.

[6](#) References

- [1] N. Freed, J. Klensin, J. Postel, Multipurpose Internet Mail Extensions (MIME) Part Four: Registration Procedures. [RFC 2048](#), [BCP 13](#), Network Working Group, November 1996
- [2] G. Klyne, An algebra for describing media feature sets, Internet Draft: <[draft-ietf-conneg-feature-algebra-00.txt](#)> Work in progress March 1998
- [3] Holtman, K., et al, "The Alternates Header Field", Internet-Draft [draft-ietf-http-alternates-01.txt](#), Work in progress, November 1997.
- [4] Masinter, L., et al, "Media Features for Display, Print, and Fax", Internet-Draft [draft-ietf-conneg-media-features-00.txt](#), Work in progress , March 1998.

[7](#) Authors' addresses

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Appendix A: IANA and RFC editor to-do list

VERY IMPORTANT NOTE: This appendix is intended to communicate various editorial and procedural tasks the IANA and the RFC Editor should undertake prior to publication of this document as an RFC. This appendix should NOT appear in the actual RFC version of this document!

This document refers to the feature tags mailing list ietf-feature-tags@iana.org. This list does not exist at the present time and needs to be created.

The <ftp://ftp.isi.edu/in-notes/iana/assignments/feature-tags/> area does not exist at the present time and needs to be created.

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