

INTERNET-DRAFT
Obsoletes [RFC 2606](#)
Expires: April 2006

Donald E. Eastlake 3rd
Motorola Laboratories
October 2005

Reserved Top Level DNS Names

<[draft-eastlake-2606bis-00.txt](#)>

Status of This Document

By submitting this Internet-Draft, each author represents that any applicable patent or other IPR claims of which he or she is aware have been or will be disclosed, and any of which he or she becomes aware will be disclosed, in accordance with [Section 6 of BCP 79](#).

Distribution of this draft is unlimited. It is intended to become the new [BCP 32](#) obsoleting [RFC 2606](#). Comments should be sent to the author or the DNS Working Group mailing list <namedroppers@ops.ietf.org>.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than a "work in progress."

The list of current Internet-Drafts can be accessed at
<http://www.ietf.org/lid-abstracts.html>

The list of Internet-Draft Shadow Directories can be accessed at
<http://www.ietf.org/shadow.html>

Copyright Notice

Copyright (C) The Internet Society (2005). All Rights Reserved.

Abstract

To reduce the likelihood of conflict and confusion, a few top level and a number of other domain names are reserved for use in private

testing, as examples in documentation, and the like. In addition, a number of other domain names labels reserved to avoid confusing names or other purposes.

Table of Contents

Status of This Document.....	1
Copyright Notice.....	1
Abstract.....	1
Table of Contents.....	2
1 . Introduction.....	3
2 . TLDs for Testing, & Documentation Examples.....	3
3 . Reserved Second Level Domain Names.....	4
3.1 Labels Reserved at All Levels.....	4
3.2 Additional Second-Level Reservations.....	5
3.3 Tagged Domain Names.....	5
3.4 Second-Level Reservations for Registry Operators.....	5
4 . IANA Considerations.....	6
5 . Security Considerations.....	6
Appendix: Changes from RFC 2606	6
Copyright and Disclaimer.....	7
Normative References.....	7
Informative Reference.....	7
Authors Addresses.....	8
Expiration and File Name.....	8

[1.](#) Introduction

The global Internet Domain Name System is documented in [RFC 1034, 1035, 1591] and numerous additional Requests for Comment. It defines a tree of names starting with root, ".", immediately below which are top level domain names such as ".com" and ".us". Below top level domain names there are normally additional levels of names.

[2.](#) TLDs for Testing, & Documentation Examples

There is a need for top level domain (TLD) names that can be used for creating names which, without fear of conflicts with current or future actual TLD names in the global DNS, can be used for private testing of existing DNS related code, examples in documentation, DNS related experimentation, invalid DNS names, or other similar uses.

For example, without guidance, a site might set up some local additional unused top level domains for testing of its local DNS code and configuration. Later, these TLDs might come into actual use on the global Internet. As a result, local attempts to reference the real data in these zones could be thwarted by the local test versions. Or test or example code might be written that accesses a TLD that is in use with the thought that the test code would only be run in a restricted testbed net or the example never actually run. Later, the test code could escape from the testbed or the example be actually coded and run on the Internet. Depending on the nature of the test or example, it might be best for it to be referencing a TLD permanently reserved for such purposes.

To safely satisfy these needs, four domain names are reserved as listed and described below.

```
.test
.example
.invalid
.localhost
```

".test" is recommended for use in testing of current or new DNS related code.

".example" is recommended for use in documentation or as examples.

".invalid" is intended for use in online construction of domain names that are sure to be invalid and which it is obvious at a glance are invalid.

The ".localhost" TLD has traditionally been statically

defined in host DNS implementations as having an A record pointing to the loop back IP address and is reserved for such use. Any other use would conflict with widely deployed code which assumes this use.

3. Reserved Second Level Domain Names

At the time of the issuance of [[RFC 2606](#)], the Internet Assigned Numbers Authority (IANA, <http://www.iana.org>) had reserved the following second level domain names reserved which can be used as examples.

```
example.com
example.net
example.org
```

At this time, similar restrictions are by way of contract between the Internet Corporation for Assigned Names and Numbers (ICANN, <http://www.icann.org>) and the Registry Operators of many top level domains. See <<http://www.icann.org/registries/agreements.htm>>.

The ICANN "Schedule of Reserved Names" most recent version, as of the date of this document, is at <http://www.icann.org/tlds/agreements/net/net-registry-agreement-01jul05.pdf>. It reserves the labels listed in the following subsections, except when released by ICANN.

3.1 Labels Reserved at All Levels

These are reserved from initial registration, unless ICANN grants an exemption, at the second level and at all deeper levels where the top level registry operator performs registration. If they have been previously registered, they may be renewed and there is no restriction on their existence in delegated zones.

ICANN-related names:

- aso
- gnso
- icann
- internic
- ccnso

IANA-related names:

- afrinic
- apnic
- arin
- example

- gtld-servers
- iab
- iana
- iana-servers
- iesg
- ietf
- irtf
- istf
- lacnic
- latnic
- rfc-editor
- ripe
- root-servers

[3.2](#) Additional Second-Level Reservations

The follows labels are prohibited as second level domain names:

All single character labels.

All two character labels unless a release is obtained from the government and country-code manager if that two letter combination is an assigned country-code or a release from the ISO 3166 maintenance agency if it has not been so assigned.

[3.3](#) Tagged Domain Names

All labels with hyphens in the third and fourth character positions such as "bq--1k2n4h4b" or "xn--ndk061n".

[3.4](#) Second-Level Reservations for Registry Operators

The following are reserved for the use of the top level domain Registry Operator and will be transferred whenever the Operator changes:

nic
whois
www

[4.](#) IANA Considerations

IANA has agreed to the four top level domain name reservations specified in this document and will reserve them for the uses indicated.

[5.](#) Security Considerations

Confusion and conflict can be caused by the use of a current or future top level domain name in experimentation or testing, as an example in documentation, to indicate invalid names, or as a synonym for the loop back address. Test and experimental software can escape and end up being run against the global operational DNS. Even examples used "only" in documentation can end up being coded and released or cause conflicts due to later real use and the possible acquisition of intellectual property rights in such "example" names.

Similar considerations apply to second level and other domain name labels, particularly confusion when such names are the well known names of Internet infrastructure or standards organizations but are held by arbitrary registrants in other top level domain names.

The reservation of several top level and other domain names for these purposes by IANA and ICANN minimizes such confusion and conflict.

Appendix: Changes from [RFC 2606](#)

Addition of information about the reservation of 2nd and deeper level domain names in ICANN contracts with top level domain Registry Operators.

Copyright and Disclaimer

Copyright (C) The Internet Society (2005). This document is subject to the rights, licenses and restrictions contained in [BCP 78](#), and except as set forth therein, the authors retain all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Normative References

[RFC 1034] Mockapetris, P., "Domain names - concepts and facilities", STD 13, [RFC 1034](#), November 1987.

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

[RFC 1591] Postel, J., "Domain Name System Structure and Delegation", [RFC 1591](#), March 1994.

Informative Reference

[RFC 2606] Eastlake 3rd, D. and A. Panitz, "Reserved Top Level DNS Names", [BCP 32](#), [RFC 2606](#), June 1999.

INTERNET-DRAFT

Reserved Top Level DNS Names

October 2005

Authors Addresses

Donald E. Eastlake 3rd
Motorola Laboratories
155 Beaver Street
Milford, MA 01757 USA

Telephone: +1-508-786-7554 (w)
email: Donald.Eastlake@motorola.com

Expiration and File Name

This draft expires April 2006.

Its file name is [draft-eastlake-2606bis-00.txt](#).

[D.](#) Eastlake 3rd

[Page 8]