                      Reserved Top Level DNS Names

Status of this Memo

   This document specifies an Internet Best Current Practices for the
   Internet Community, and requests discussion and suggestions for
   improvements. Distribution of this memo is unlimited.

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Abstract

   To reduce the likelihood of conflict and confusion, a few top level
   domain names are reserved for use in private testing, as examples in
   documentation, and the like. In addition, a few second level domain
   names reserved for use as examples are documented.

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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 Example Second Level Domain Names

   The Internet Assigned Numbers Authority (IANA) also currently has the
   following second level domain names reserved which can be used as
   examples.

         example.com
         example.net
         example.org

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.

   The reservation of several top level domain names for these purposes
   will minimize such confusion and conflict.

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.

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Acknowledgement