DNS Top Level Domain For Private Networks

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Abstract

The document outlines the use of a top level DNS domain ".pri", for use within private networks.

A reserved top level domain would allow private domain names to be chosen that would not conflict with current or future registered public domain names.
1. Introduction

Increasingly, private networks require a domain name service for both private and public (internet) domain names. However, it is not required or desirable for the private namespace to be accessible from outside the private network. A reserved top level domain would allow a private namespace to be defined that would not conflict with current or future registered public domain names.

2. Current Common Practice in private network domain names selection

Currently, common practice when selecting a private network domain name follows one of two unsatisfactory paths:

(i) Use of registered public domain name

A private DNS server is configured as authoritative for the registered domain name, in addition to the existing public facing authoritative name server(s).

The private server holds the "private version" of the registered domain, and delegates to subdomains as necessary.

This requires two different versions of a single zone, in contravention of RFC1034. This can also lead to practical problems if a DNS query from a server on the private network to a public name server returns additional information regarding names in the "public version" of the registered zone.

(ii) Use of an unregistered domain name

An unregistered domain name is chosen for the private network, for example a company with a registered domain "acme.com" might choose "acme.net" for the private network.

This avoids the problems of using a registered domain name, yet may conflict with a future reservation of the domain chosen.

3. Using a Reserved Top Level Domain for private network domain names

A reserved top level domain name, ".pri", would allow a private domain name to be chosen safely with no risk of conflict with current or future registered domain names.

A private DNS server is configured as authoritative for the ".pri" domain, and delegates the private subdomains as appropriate.
Use of a private domain naming scheme based on a consistent top level domain also allows multiple trusted private networks to integrate their domain naming schemes simply by merging and synchronising the ".pri" zone.

Use of a clearly private domain name also can provide a clear distinction to users and applications between trusted private hosts and untrusted public hosts.

For example, Acme Corp may choose "acme.pri" for their private domain name. They configure their DNS server to be authority for ".pri" and "acme.pri", whilst all domains outside of the ".pri" domain will be resolved via public DNS servers. Should Acme Corp wish to make its private domain names accessible to Cowboy Corp, who use the private domain "cowboy.pri", then the two organisations simply merge and synchronize their ".pri" zones.

4. Existing Reserved Top Level Domains

Existing reserved top level domains are described in RFC2606.

5. IANA Considerations

To enable the use of the domain ".pri" as described, IANA would need to reserve the domain for this purpose.

6. Request for Comments

Please send comments by e-mail to:
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References


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Please note that Simon Coffey will not be contactable from 24-Jun-200 to 26-Jul-2001 but will be reading e-mail at approximately monthly intervals. Please contact Sandy Strain with any urgent queries during this period.

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