

**The Domain Search Option for DHCP**  
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Abstract

The Dynamic Host Configuration Protocol (DHCP)[[1](#)] provides a framework for passing configuration information to hosts on a TCP/IP network. This document defines a new option which is passed from the DHCP Server to the DHCP Client to configure the domain search list which is used by the clients to resolve hostnames in the Domain Name System[[3](#)].

Introduction

[RFC 2132](#) allows the Domain Name (option 15) and the Domain Name Server (option 6) to be passed to the DHCP client. This information is used to resolve names in the Domain Name System. These options are usually placed in the resolv.conf file on most operating systems. The name resolution routines on the client are also capable of using a domain search list that allows name resolution to be attempted in a number of domains in sequence. The Domain Search Option allows a list of domain names, in order of preference, to be passed to the DHCP client such that the search directive can be specified for name resolution.

## Definitions

Throughout this document, the words that are used to define the significance of the particular requirements are capitalized. These words are:

### "MUST"

This word or the adjective "REQUIRED" means that the item is an absolute requirement of this specification.

### "MUST NOT"

This phrase means the item is an absolute prohibition of this specification.

### "SHOULD"

This word or the adjective "RECOMMENDED" means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course.

### "SHOULD NOT"

This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighted before implementing any behavior described with this label.

### "MAY"

This word or the adjective "OPTIONAL" means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example, another vendor may omit the same item.

This document also uses the following terms:

### "DHCP client"

DHCP client or "client" is an Internet host using DHCP to obtain configuration parameters such as a network address.

### "DHCP server"



A DHCP server or "server" is an Internet host that returns configuration parameters to DHCP clients.

#### Domain Search Option Format

The code for this option is TBD, and its minimum length is 2 bytes.

Code	Len	Domain Names in Sequence	
+-----+	+-----+	+-----+	+-----+
TBD	n	d1   0x20	d2
+-----+	+-----+	+-----+	+-----+

Where d1 & d2 are domain names specified as NVT ASCII strings. An ASCII space character (0x20) is used as a separator between the domain names.

#### DHCP Client Behavior

The DHCP client will use this option to create a domain search list for name resolution. If a DHCP client is given both a Domain Name Option and a Domain Search Option, the Domain Search Option will take precedence.

#### Security Considerations

DHCP currently provides no authentication or security mechanisms. Potential exposures to attack are discussed in [section 7](#) of the DHCP protocol specification [[1](#)].

#### References

- [1] Droms, R., "Dynamic Host Configuration Protocol", [RFC 2131](#), March 1997.
- [2] Alexander, S. and Droms, R., "DHCP Options and BOOTP Vendor Extensions", [RFC 2132](#), March 1997.
- [3] Mockapetris, P. V., "Domain names - implementation and specification", [RFC 1035](#), November 1987.

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