

Netware/IP Domain Name and Information  
<[draft-ietf-dhc-netware-options-00.txt](#)>

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## 1.0 Abstract

The Dynamic Host Configuration Protocol (DHCP) [[RFC 2131](#)] provides a framework for passing configuration information to hosts on a TCP/IP network. DHCP includes options for specific configuration parameters [[RFC 2132](#)]. This document defines options that carry Netware/IP domain name and Netware/IP sub-options to DHCP clients.

## 1.1 Requirements

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

- o "MUST"

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

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- o "MUST NOT"

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

- o "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.

- o "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 weighed before implementing any behavior described with this label.

- o "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.

## [1.2](#) Terminology

This document uses the following terms:

- o "DHCP client"

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

- o "DHCP server"

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

## 2. The NetWare/IP Domain Name option

This option code is used to convey the NetWare/IP domain name used by the NetWare/IP product. The NetWare/IP Domain in the option is an NVT

ASCII [[RFC 854](#)] string whose length is inferred from the option 'len' field.

The code for this option is 62, and its maximum length is 255.

Code	Len	NetWare/IP Domain Name			
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
62	n	c1	c2	c3	...
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

## 3. The NetWare/IP Information option

The NetWare/IP option code will be used to convey all the NetWare/IP related information except for the NetWare/IP domain name.

The code for this option is 63, and its maximum length is 255. A number of NetWare/IP sub-options will be conveyed using this option code.

Each sub-option contains in sequential order, a one byte sub-option code, a one byte length, and an optional multiple byte value field.

One and only one of the following four sub-options must be the first sub-option to be present in option 63 encoding. Each of them is simply a type length pair with length set to zero.

Sub-options:

NWIP\_DOES\_NOTE\_EXIST (code 1)

The responding DHCP server does not have any NetWare/IP information configured.

NWIP\_EXIST\_IN\_OPTIONS\_AREA (code 2)

All NetWare/IP information is present in the 'options' area of the DHCP response packet.

#### NWIP\_EXIST\_IN\_SNAME\_FILE (code 3)

All NetWare/IP information is present in the 'sname' and, if necessary, 'file' fields of the DHCP response packet. If used, the following DHCP server behavior is required: within the 'options' area, option 63 is present with its length field set to 2. The first byte of the value field is set to NWIP\_EXIST\_IN\_SNAME\_FILE tag and the second byte is set to zero. Both option 62 and option 63 will be placed in the area covered by the sname and file

fields. Option 62 is encoded normally. Option 63 is encoded with its tag, length and value. The value field does not contain any of the first four sub-options described herein.

#### NWIP\_EXIST\_BUT\_TOO\_BIG (code 4)

Neither 'options' area nor 'sname' field can accommodate the NetWare/IP information.

If either NWIP\_EXIST\_IN\_OPTIONS\_AREA or NWIP\_EXIST\_IN\_SNAME\_FILE sub-options is set, one or more of the following sub-options may be present.

#### NSQ\_BROADCAST (code 5)

Length is 1 and a value of 1 or 0. If the value is 1, the client SHOULD perform a NetWare Nearest Server Query to find out its nearest NetWare/IP server.

#### PREFERRED\_DSS (code 6)

Length is  $(n * 4)$  and the value is an array of  $n$  IP addresses, each four bytes in length. The maximum number of addresses is 5 and therefore the maximum length value is 20. The list contains the addresses of  $n$  NetWare Domain SAP/RIP Server (DSS).

#### NEAREST\_NWIP\_SERVER (code 7)

Length is  $(n * 4)$  and the value is an array of  $n$  IP addresses,

each four bytes in length. The maximum number of addresses is 5 and therefore the maximum length value is 20. The list contains the addresses of n Nearest NetWare/IP servers.

AUTORETRIES (code 8)

Length is 1 and the value is a one byte integer value indicating the number of times a NetWare/IP client should attempt to communicate with a given DSS server at startup.

AUTORETRY\_SECS (code 9)

Length is 1 and the value is a one byte integer value indicating the amount of delay in seconds in between each NetWare/IP client attempt to communicate with a given DSS server at startup.

NWIP\_1\_1 (code 10)

Length is 1 and the value is 1 or 0. If the value is 1, the

NetWare/IP client SHOULD support NetWare/IP Version 1.1 compatibility. A NetWare/IP client only needs this compatibility if it will contact a NetWare/IP version 1.1 server.

PRIMARY\_DSS (code 11)

Length of 4, and the value is a single IP address. This field identifies the Primary Domain SAP/RIP Service server (DSS) for this NetWare/IP domain. NetWare/IP administration utility uses this value as Primary DSS server when configuring a secondary DSS server.

An example of option 63 encoding is provided below.

Code	Len	NetWare/IP	General	Info
63	11	2	0	

NWIP\_EXIST\_IN\_OPTIONS\_AREA (length 0)

5	1	1
---	---	---

```
+-----+-----+-----+
NSQ_BROADCAST_SERVER (length 1)
value is YES

+-----+-----+-----+
| 7 | 4 | IP address |
+-----+-----+-----+
NEAREST_NWIP_SERVER (length 4)
value is IP address of server
```

#### [4. References](#)

[RFC 854] Postel, J. and J. Reynolds, "Telnet Protocol Specification", [RFC 854](#), May 1983.

[RFC 2131] Droms, R., "Dynamic Host Configuration Protocol", [RFC 2131](#), March 1997.

[RFC 2132] Alexander, S. and R. Droms, "DHCP Options and BOOTP Vendor Extensions", [RFC 2132](#).

#### [5. Security considerations](#)

These options can be used by unauthorized DHCP servers to misconfigure Netware/IP clients with potentially disruptive information.

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