

## Unused Dynamic Host Configuration Protocol (DHCP) Option Codes

### Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (2004). All Rights Reserved.

### Abstract

Prior to the publication of [RFC 2489](#) (which was updated by [RFC 2939](#)), several option codes were assigned to proposed Dynamic Host Configuration Protocol (DHCP) options that were subsequently never used. This document lists those unused option codes and directs IANA to make these option codes available for assignment to other DHCP options in the future.

The document also lists several option codes that are not currently documented in an RFC but should not be made available for reassignment to future DHCP options.

### 1. Introduction

[Section 2](#) of this document lists the unused DHCP option codes from the IANA list of BOOTP and DHCP option codes [[1](#)]. Each option code includes any known documentation and contact information from the IANA list. IANA will make these option codes available for assignment to other DHCP options in the future.

[Section 3](#) lists several DHCP option codes that are not currently documented in an RFC but should not be made available for reassignment to future DHCP options.

### 2. Unused DHCP Option Codes to be Reassigned to Future DHCP Options

The option codes listed in this section are to be returned to IANA for reassignment to new options. Responses from associated contact persons are noted where they have been received.

### 2.1. Service Location Protocol Naming Authority

Code: 80  
Name: Service Location Protocol Naming Authority  
Defined in: (expired Internet-Draft)  
Contact: Charlie Perkins  
Reason to recover: Never published as standard and not in general use

### 2.2. Relay Agent Options

Codes: 83, 84  
Name: Relay Agent Options  
Defined in: Early draft of RFC 3046 [2]  
Contact: (none)  
Reason to recover: Not defined in RFC 3046 as published

### 2.3. IEEE 1003.1 POSIX Timezone

Code: 88  
Name: IEEE 1003.1 POSIX Timezone  
Defined in: (expired Internet-Draft)  
Contact: Mike Carney  
Reason to recover: Never published as standard and not in general use

### 2.4. FQDNs in DHCP Options

Code: 89  
Name: FQDNs in DHCP Options  
Defined in: (expired Internet-Draft)  
Contact: Ralph Droms; agrees that option code should be reassigned  
Reason to recover: Never published as standard and not in general use

### 2.5. VINES TCP/IP Server

Code: 91  
Name: VINES TCP/IP Server  
Defined in: (none)  
Contact: (none)  
Reason to recover: Never published as Internet-Draft

### 2.6. Server Selection

Code: 92  
Name: Server Selection  
Defined in: (none)  
Contact: (none)  
Reason to recover: Never published as Internet-Draft

## 2.7 IPv6 Transition

Code: 96  
Name: IPv6 Transition  
Defined in: (expired Internet-Draft)  
Contact: Dan Harrington; agrees that option code should be  
reassigned  
Reason to recover: Never published as standard and not in general use

## 2.8. Printer Name

Code: 100  
Name: Printer Name  
Defined in: (none)  
Contact: (none)  
Reason to recover: Never published as Internet-Draft

## 2.9. Multicast Assignment through DHCP

Code: 101  
Name: Multicast Assignment through DHCP  
Defined in: (expired Internet-Draft)  
Contact: Baiju Patel, Munil Shah  
Reason to recover: Never published as standard and not in general use

## 2.10. Swap Path

Code: 108  
Name: Swap Path  
Defined in: (none)  
Contact: (none)  
Reason to recover: Never published as Internet-Draft

## 2.11. IPX Compatibility

Code: 110  
Name: IPX Compatibility  
Defined in: (none)  
Contact: Juan Luciani; agrees that option code should be  
reassigned  
Reason to recover: Never published as Internet-Draft

## 2.12. Failover

Code: 115  
Name: Failover  
Defined in: Early revisions of "DHCP Failover Protocol" [3]  
Contact: Kim Kinnear  
Reason to recover: Current version of "DHCP Failover Protocol" does not use a DHCP option

## 3. Option codes to be reserved by IANA

The option codes listed in this section are the subject of ongoing work in the DHC Working Group (WG). These option codes should remain on the IANA list of assigned option codes [1] until the DHC WG has made a final decision about their disposition.

### 3.1. Option codes used in PXE Specification

The following option codes are used in the "Preboot Execution Environment (PXE) Specification, Version 2.1" [4]. However, although these options are in widespread use by devices that use PXE, none of these option codes have been described in a published RFC.

The DHC WG will endeavor to have specifications for these options published.

#### 3.1.1. Client System

Code: 93  
Name: Client System  
Defined in: "Preboot Execution Environment (PXE) Specification, Version 2.1" [4]  
Contact: Michael Johnston  
(frenchy@quiet-like-a-panther.org)

#### 3.1.2. Client NDI

Code: 94  
Name: Client NDI  
Defined in: "Preboot Execution Environment (PXE) Specification, Version 2.1" [4]  
Contact: Michael Johnston  
(frenchy@quiet-like-a-panther.org)

### 3.1.3. UUID/GUID Client Identifier

Code: 97  
Name: UUID/GUID Client Identifier  
Defined in: "Preboot Execution Environment (PXE) Specification, Version 2.1" [4] (and an expired Internet-Draft)  
Contact: Dan Harrington, Michael Johnston  
(frenchy@quiet-like-a-panther.org)

### 3.2. In Use by Apple

The following option codes are used by devices from Apple Computer. However, none of these option codes have been described in a published RFC.

The DHC WG will endeavor to have specifications for these options published.

#### 3.2.1. LDAP Servers

Code: 95  
Name: LDAP Servers  
Defined in: (none)  
Contact: Dieter Siegmund, dieter@apple.com  
Reason to recover: Never published in an RFC

#### 3.2.2. Netinfo Parameters

Codes: 112, 113  
Name: Netinfo Address, Netinfo Tag  
Defined in: (none)  
Contact: Dieter Siegmund, dieter@apple.com  
Reason to recover: Never published in an RFC

#### 3.2.3. URL

Code: 114  
Name: URL  
Defined in: (none)  
Contact: Dieter Siegmund, dieter@apple.com  
Reason to recover: Never published in an RFC

### 3.3. Option Code Extensions

Note that these option codes are identified in "Extending DHCP Options Codes" [5] as part of a mechanism for extending the set of option codes available to DHCP. If these option codes are not used for DHCP option code extension, they will be returned to IANA for reassignment to other DHCP options.

Codes: 126, 127  
Name: Option Code Extensions  
Defined in: (expired Internet-Draft)  
Contact: Ralph Droms

### 4. Already Returned for Reassignment

The option codes 99, 102-107, 109 and 111 have already been returned for reassignment to future DHCP options.

### 5. Security Considerations

This document has no known security implications, as none of the reclaimed options are known to be in use.

### 6. IANA Considerations

IANA has returned the DHCP option codes listed in Section 2 to the list of available option codes. These option codes may be reassigned to new DHCP options, according to the procedures in RFC 2939 [6]. IANA is requested to reassign these option codes after the list of option codes that have never been assigned or have previously been returned has been exhausted.

### Informative References

- [1] Assigned Numbers Editor, IANA., "BOOTP and DHCP Parameters", <http://www.iana.org/assignments/bootp-dhcp-parameters>, February 2003.
- [2] Patrick, M., "DHCP Relay Agent Information Option", RFC 3046, January 2001.
- [3] Droms, R., Kinnear, K., Stapp, M., Volz, B., Gonczi, S., Rabil, G., Dooley, M. and A. Kapur, "DHCP Failover Protocol", Work in Progress.
- [4] Intel Corporation, "Preboot Execution Environment (PXE) Specification Version 2.1", <http://www.pix.net/software/pxeboot/archive/pxespec.pdf>, September 1999.

- [5] Volz, B., Droms, R. and T. Lemon, "Extending DHCP Options Codes", Work in Progress.
- [6] Droms, R., "Procedures and IANA Guidelines for Definition of New DHCP Options and Message Types", [BCP 43](#), [RFC 2939](#), September 2000.

#### Intellectual Property Statement

The IETF takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on the IETF's procedures with respect to rights in standards-track and standards-related documentation can be found in [BCP-11](#). Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementors or users of this specification can be obtained from the IETF Secretariat.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights which may cover technology that may be required to practice this standard. Please address the information to the IETF Executive Director.

#### Author's Address

Ralph Droms  
Cisco Systems  
1414 Massachusetts Avenue  
Boxborough, MA 01719  
USA

Phone: +1 978 936 1674  
EMail: [rdroms@cisco.com](mailto:rdroms@cisco.com)

#### Full Copyright Statement

Copyright (C) The Internet Society (2004). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assignees.

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS 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.

#### Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.