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Status of Reclassifying DHCPv4 Options ([RFC 3942](#))
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Abstract

This document provides a status report as of April 2007 for the effort to reclassify Dynamic Host Configuration Protocol options 128 to 223 as managed by IANA in accordance with [RFC 3942](#). This document further recommends actions to be taken by IANA to update this reclassification effort.

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1. Introduction

This document provides a status report as of March 2007 for the effort to reclassify Dynamic Host Configuration Protocol (DHCPv4) [2] options 128 to 223 as managed by IANA in accordance with [RFC 3942](#) [1]. This document further recommends actions to be taken by IANA to finalize this reclassification effort.

[RFC 3942](#) was published in November 2004 and stipulated a process and time table for vendors using options in the 128 to 223 range to request IANA to assign those options to the vendors' use. The time table for the process has elapsed.

2. Summary of Activity

After the publication of [RFC 3942](#), several vendors and other uses of DHCPv4 options 128 to 223 were reported and IANA placed the following options in the tentatively assigned state in June 2005:

- 128 Reported as used by Intel's PXE [4], Etherboot (etherboot signature of octets e4:45:74:68:00:00), Cablelabs (DOCSIS "full security" server IP address), and Mitel (IP phone software load TFTP server IP address) [5].
- 129 Reported as used by Intel's PXE [4], Etherboot (kernel options), and Mitel (call server IP address) [5].
- 130 Reported as used by Intel's PXE [4], Etherboot (ethernet interface), and Mitel (discrimination string - identifies vendor) [5].
- 131 Reported as used by Intel's PXE [4] and Mitel (remote statistics server IP address) [5].
- 132 Reported as used by Intel's PXE [4] and Mitel (802.1P VLAN id) [5].
- 133 Reported as used by Intel's PXE [4] and Mitel (802.1Q L2 priority) [5].
- 134 Reported as used by Intel's PXE [4] and Mitel (diffserv code point) [5].
- 134 Reported as used by Intel's PXE [4] and Mitel (HTTP proxy for phone-specific applications) [5].
- 150 Reported as used by Cisco (TFTP server address) [6], Etherboot (usage unknown), and GNU Grub (GRUB configuration path name).
- 175 Reported as used by Etherboot (usage unknown).
- 176 Reported as used by Avaya (IP telephone).
- 177 Reported as used by Etherboot (usage unknown) and by Cablelabs (though that use has been deprecated in favor of option 122 [3]).

- 208 Reported as used by PXELINUX (MAGIC) [[7](#)].
- 209 Reported as used by PXELINUX (ConfigFile) [[7](#)].
- 210 Reported as used by PXELINUX (Pathprefix) [[7](#)].
- 211 Reported as used by PXELINUX (Reboottime) [[7](#)].
- 220 Reported as used by Cisco (subnet allocation) [[8](#)].
- 221 Reported as used by Cisco (virtual subnet selection option) [[9](#)].

For those options where multiple uses were demonstrated to be in reasonably wide usage, [RFC 3942](#) stipulated that none of the users would be allowed to retain that option number. However, this assumed that each of these users would follow through on the process.

Since that time:

- o The Mitel draft [[5](#)] expired in November 2005.
- o The PXELINUX draft [[7](#)] expired in November 2006. And, an updated draft has just been published.
- o The Cisco TFTP server draft [[6](#)] expired in December 2005. And, an updated draft is expected to be published shortly.
- o The Cisco subnet allocation draft [[8](#)] is presently active.
- o The Cisco virtual subnet selection option [[9](#)] expired in December 2005. And, an updated draft has just been published.
- o No internet-draft was ever published for options used by Etherboot, GRUB, or Avaya.

[3.](#) Recommendations

Based on the process and time table specified by [RFC 3942](#), the following actions are recommended:

- 128 Assign to Intel's PXE [[4](#)].
- 129 Assign to Intel's PXE [[4](#)].
- 130 Assign to Intel's PXE [[4](#)].
- 131 Assign to Intel's PXE [[4](#)].
- 132 Assign to Intel's PXE [[4](#)].
- 133 Assign to Intel's PXE [[4](#)].
- 134 Assign to Intel's PXE [[4](#)].
- 134 Assign to Intel's PXE [[4](#)].
- 150 Leave tentatively assigned to Cisco (TFTP server address) pending republication and continued forward process on [[6](#)].
- 175 Move to "Unassigned" (thus available for assignment).
- 176 Move to "Unassigned" (thus available for assignment).
- 177 Move to "Unassigned" (thus available for assignment).
- 208 Leave tentatively assigned to PXELINUX (MAGIC) pending republication and continued forward process on [[7](#)].

- 209 Leave tentatively assigned to PXELINUX (ConfigFile) pending republication and continued forward process on [7].
- 210 Leave tentatively assigned to PXELINUX (Pathprefix) pending republication and continued forward process on [7].
- 211 Leave tentatively assigned to PXELINUX (Reboottime) pending republication and continued forward process on [7].
- 220 Leave tentatively assigned to Cisco (subnet allocation) pending republication and continued forward process on [8].
- 221 Leave tentatively assigned to Cisco (virtual subnet selection option) pending republication and continued forward process on [9].

4. Security Considerations

This document has no security considerations.

5. IANA Considerations

IANA is requested to update <http://www.iana.org/assignments/bootp-dhcp-parameters> for options 128-135, 150, 175-177, 208-211, 220, and 221 as follows based on the above recommendations:

- 128** PXE - undefined (vendor specific) [RFC4578]
- 129** PXE - undefined (vendor specific) [RFC4578]
- 130** PXE - undefined (vendor specific) [RFC4578]
- 131** PXE - undefined (vendor specific) [RFC4578]
- 132** PXE - undefined (vendor specific) [RFC4578]
- 133** PXE - undefined (vendor specific) [RFC4578]
- 134** PXE - undefined (vendor specific) [RFC4578]
- 135** PXE - undefined (vendor specific) [RFC4578]
- 150** TFTP server address (Tentatively Assigned - 23 Jun 2005 - DRAFT-RAJ-DHC-TFTP-ADDR-OPTION-01.TXT)
- 175-177 Unassigned [RFC3942]
- 208** pxelinux.magic (string) = F1:00:74:7E (241.0.116.126) (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-PXELINUX-01.TXT)
- 209** pxelinux.configfile (text) (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-PXELINUX-01.TXT)
- 210** pxelinux.pathprefix (text) (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-PXELINUX-01.TXT)
- 211** pxelinux.reboottime (unsigned integer 32 bits) (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-PXELINUX-01.TXT)
- 220** Subnet Allocation Option (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-SUBNET-ALLOC-04.TXT)
- 221** Virtual Subnet Selection Option (Tentatively Assigned - 23 Jun 2005 - DRAFT-IETF-DHC-VPN-OPTION-06.TXT)

6. References

6.1. Normative References

- [1] Volz, B., "Reclassifying Dynamic Host Configuration Protocol version 4 (DHCPv4) Options", [RFC 3942](#), November 2004.

6.2. Informative References

- [2] Droms, R., "Dynamic Host Configuration Protocol", [RFC 2131](#), March 1997.
- [3] Beser, B. and P. Duffy, "Dynamic Host Configuration Protocol (DHCP) Option for CableLabs Client Configuration", [RFC 3495](#), March 2003.
- [4] Johnston, M. and S. Venaas, "Dynamic Host Configuration Protocol (DHCP) Options for the Intel Preboot eXecution Environment (PXE)", [RFC 4578](#), November 2006.
- [5] Blatherwick, P., "Mitel Usage of DHCPv4 Vendor Options 128 - 135", [draft-blatherwick-dhc-mitel-site-options-usage-00](#) (work in progress), May 2005.
- [6] Johnson, R., "TFTP Server Address DHCP Option", [draft-raj-dhc-tftp-addr-option-01](#) (work in progress), June 2005.
- [7] Hankins, D., "PXELINUX Use of 'Site Local' Option Space", [draft-ietf-dhc-pxelinux-01](#) (work in progress), April 2007.
- [8] Johnson, R., "Subnet Allocation Option", [draft-ietf-dhc-subnet-alloc-04](#) (work in progress), October 2006.
- [9] Johnson, R., "Virtual Subnet Selection Option", [draft-ietf-dhc-vpn-option-06](#) (work in progress), April 2007.

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