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DSTM Ports Option for DHCPv6
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Abstract

The DSTM Ports Option provides DSTM (Dual Stack Transition Mechanism) configuration information to DHCPv6 hosts.

1. Introduction

This document describes the Ports Option for DHCPv6 [2] that provide information for hosts using the "Dual Stack Transition Mechanism" (DSTM) [3].

2. Requirements

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [1].

3. Terminology

This document uses terminology specific to IPv6 and DHCPv6 as defined in section "Terminology" of the DHCPv6 specification.

4. DSTM Ports Option

The DSTM Ports option carries a port range that is to be used for the associated IPv4-mapped IPv6 address in an IA_DSTM option [5].

The format of the DSTM Ports option is:

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|      OPTION_DSTM_PORTS        |          option-length        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|         start port            |          end port             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

option-code: OPTION_DSTM_PORTS (TBD)

option-length: 4

start port: The start port number for the associated IPv4-mapped IPv6 address.

end port: The end port number for the associated IPv4-mapped IPv6 address.

A DSTM Ports option MAY be encapsulated in an IA_DSTM option [5] to specify the port range associted with the IPv4-mapped IPv6 address.

A DSTM Ports option MUST NOT be used except when encapsulated in an IA_DSTM option [5].

5. Appearance of these options

The DSTM Ports option MUST only appear as an encapsulated option in an IA_DSTM option [5].

6. Security Considerations

The DSTM Ports option may be used by an intruder DHCP server to

assign an invalid port range to a DHCP client in a denial of service attack.

To avoid this security hazard, a DHCP client MUST use authenticated DHCP to confirm that it is exchanging the DSTM options with an authorized DHCP server.

7. IANA Considerations

IANA is requested to assign an option code to this option from the option-code space defined in section "DHCP Option" of the DHCPv6 specification [2].

References

[1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[2] Bound, J., Carney, M., Perkins, C., Lemon, T., Volz, B. and R. Droms (ed.), "Dynamic Host Configuration Protocol for IPv6 (DHCPv6)", draft-ietf-dhc-dhcpv6-26 (work in progress), June 2002.

[3] Bound, J., "Dual Stack Transition Mechanism (DSTM)", draft-ietf-ngtrans-dstm-07 (work in progress), Feburary 2002.

[4] Hinden, R. and S. Deering, "IP Version 6 Addressing Architecture", RFC 2373, July 1998.

[5] Volz, B. et al., "DSTM Options for DHCPv6", draft-ietf-dhc-dhcpv6-opt-dstm-01.txt, (work in progress), April 2002.

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