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DHCP options for PANA Authentication Agents
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Status of this Memo

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Abstract

This document defines new DHCPv4 and DHCPv6 options that contain a list of IP addresses to locate one or more of PANA Authentication

Agents. This is one of the many methods that a PANA Client can use to locate PANA Authentication Agents.

Requirements Language

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 [RFC2119].

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1. Introduction

The Protocol for carrying Authentication for Network Access (PANA) [I-D.ietf-pana-pana] defines a new Extensible Authentication Protocol (EAP) lower layer that uses IP between the protocol end points.

The PANA protocol is run between a PANA Client (PaC) and a PANA Authentication Agent (PAA) in order to perform authentication and authorization for the network access service.

This document specifies DHCPv4 [RFC2131] and DHCPv6 [RFC3315] options that allow PANA client (PaC) to discover PANA Authentication Agents (PAA). This is one of the many methods for locating PANA Authentication Agents: manual configuration is an example of another one.

2. Terminology

This document uses the PANA terminology defined in [I-D.ietf-pana-pana].

This document uses the DHCP terminology defined in [RFC2131], [RFC2132] and [RFC3315].

3. Requirements

The keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL, when they appear in this document, are to be interpreted as described in [RFC2119].

4. DHCP Specification Dependency

This document describes new options for DHCPv4 and DHCPv6 for obtaining a list of IP addresses to locate a PANA Authentication Agent.

This document should be read in conjunction with the DHCPv4 specifications [RFC2131], [RFC2132] and DHCPv6 specification [RFC3315].

Definitions for terms and acronyms not specifically defined in this document are defined in [RFC2131], [RFC2132] and [RFC3315].

5. PANA Authentication Agent DHCPv4 Option

This section defines a DHCPv4 option that carries a list of 32-bit (binary) IPv4 addresses indicating one or more PANA Authentication Agents (PAA) available to the PANA client.

The DHCPv4 option for PANA Authentication Agent has the format shown in Fig. 1.

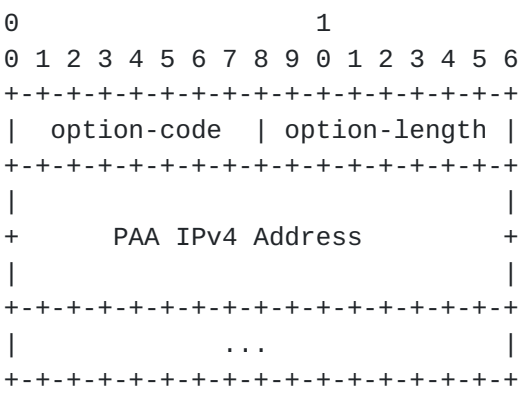

Figure 1: PAA DHCPv4 option

option-code: OPTION_PANA_AGENT (TBD)

option-length: Length of the 'options' field in octets; Must be a multiple of four (4)

PAA IPv4 Address: IPv4 address of a PAA for the client to use. The PAAs are listed in the order of preference for use by the client.

A DHCPv4 client requests the PAA DHCPv4 Option in a Parameter Request List as described in [RFC2131] and [RFC2132].

The DHCPv4 client MUST try the records in the order listed in the PAA DHCPv4 option.

6. PANA Authentication Agent DHCPv6 Option

This section defines a DHCPv6 option that carries a list of 128-bit (binary) IPv6 addresses indicating one or more PANA Authentication Agents (PAA) available to the PANA client.

The DHCPv6 option for PANA Authentication Agent has the format shown in Fig. 2.

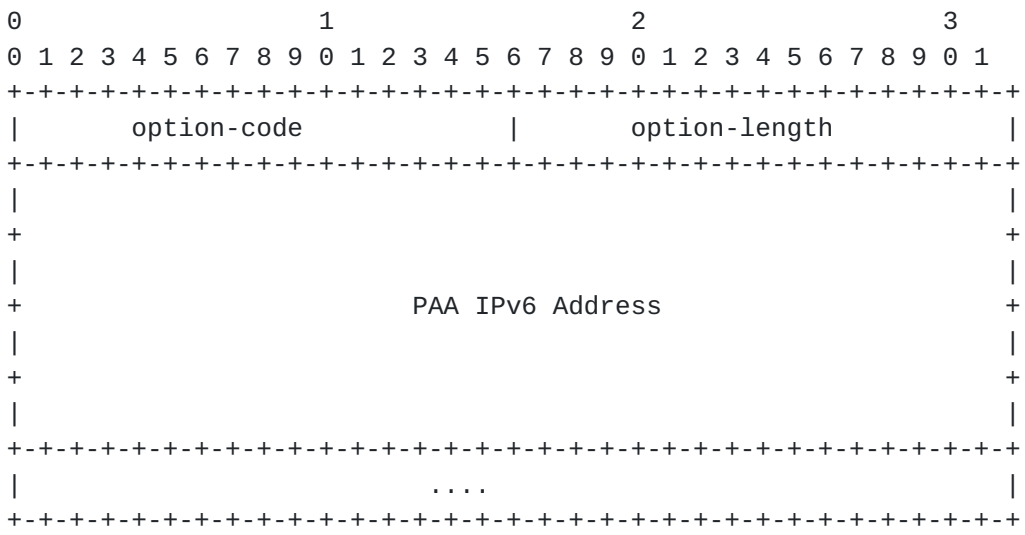

Figure 2: PAA DHCPv6 option

option-code: OPTION_PANA_AGENT (TBD)

option-length: Length of the 'options' field in octets; Must be a multiple of sixteen (16)

PAA IPv6 Address: IPv6 address of a PAA for the client to use. The PAAs are listed in the order of preference for use by the client.

A DHCPv6 client requests the PAA DHCPv6 option in an Options Request Option (ORO) as described in the DHCPv6 specification [RFC3315].

The DHCPv6 client MUST try the records in the order listed in the PAA DHCPv6 option.

7. IANA Considerations

The following DHCPv4 option code for PANA Authentication Agent option must be assigned by IANA:

Option	Name	Value	Described in
OPTION_PANA_AGENT		TBD	Section 5

The following DHCPv6 option codes for PANA Authentication Agent options must be assigned by IANA:

Option Name	Value	Described in
OPTION_PANA_AGENT	TBD	Section 6

8. Security Considerations

The security considerations in [RFC2131], [RFC2132] and [RFC3315] apply. If an adversary manages to modify the response from a DHCP server or insert its own response, a PANA Client could be led to contact a rogue PANA Agent, possibly one that then intercepts call requests or denies service.

9. Acknowledgements

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10. Normative References

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