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SIP WG
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DHCP Option for SIP Servers

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Abstract

This document defines a DHCP option that contains a single name that can be mapped to one or more SIP outbound proxy servers. This is one of the many methods that a SIP client can use to obtain the addresses of such a local SIP server.

1 Terminology

DHCP client: A DHCP [[1](#)] client is an Internet host that uses DHCP to obtain configuration parameters such as a network address.

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

SIP server: As defined in [RFC 2543](#) [2]. This server MUST be an outbound proxy server, as defined in [3]. In the context of this document, a SIP server refers to the host the SIP server is running on.

SIP client: As defined in [RFC 2543](#). The client can be a user agent client or the client portion of a proxy server. In the context of this document, a SIP client refers to the host the SIP client is running on.

In this document, the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in [RFC 2119](#) [4].

2 Introduction

The Session Initiation Protocol (SIP) [2] is an application-layer control protocol that can establish, modify and terminate multimedia sessions or calls. A SIP system has a number of logical components: user agents, proxy servers, redirect servers and registrars. User agents MAY contain SIP clients, proxy servers always do.

This draft specifies a DHCP option [1,5] that allows SIP clients to locate a local SIP server that is to be used for all outbound SIP requests, a so-called outbound proxy server. (SIP clients MAY contact the address identified in the SIP URL directly, without involving a local SIP server. However in some circumstances, when firewalls are present, SIP clients need to use a local server for outbound requests.) This is one of many possible solutions for locating the outbound SIP server; manual configuration is an example of another.

3 SIP Server DHCP Option

The SIP server DHCP option carries a DNS ([RFC 1035](#) [6]) fully-qualified domain name to be used by the SIP client to locate a SIP server. The FQDN is 16-bit Unicode text encoded into an octet stream using UTF-8 ([RFC 2044](#) [7]). The FQDN in the SIP server option MUST NOT be null-terminated. It MUST NOT end with a period.

A SIP client obtains a FQDN through the SIP server option, which the client then uses to locate the outbound proxy server by the mechanism described in RFC XXXX [3]. In summary, the FQDN is used first in a DNS SRV lookup and, if that fails because of a lack of matching DNS SRV records, the FQDN is used in an address record lookup. Normative details are contained in RFC XXXX [3].

It is possible, but NOT RECOMMENDED that the string is the textual representation of a network address, e.g., a "dotted quad" for IPv4

and the hexadecimal representation of [RFC 2373](#) [8]. Implementations MUST detect this case by checking whether all characters are decimal digits or periods.

The code for this option is TBD. The length of the DNS name string is specified in 'Len'. The maximum length of this string is 255 octets and minimum length is 1 octet. For example, a value may be "sip.example.com".

Code	Len	DNS name of SIP server				
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+
TBD	n	s1	s2	s3	s4	s5 ...
+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+

4 Security Consideration

There are no security considerations beyond those described in [RFC 2131](#) [1], [RFC 2543](#) [2] and RFC XXXX [3].

5 IANA Considerations

IANA has assigned a DHCP option number of TBD for the "SIP Servers DHCP Option" defined in this document.

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