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INTERNET DRAFT

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DHCP Options for Service Location Protocol
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Abstract

The Dynamic Host Configuration Protocol provides a framework for passing configuration information to hosts on a TCP/IP network. Entities using the Service Location Protocol need to find out the address of Directory Agents in order to transact messages. Another option provides an assignment of scope for configuration of SLP User and Service Agents.

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The address of the Directory Agent is given in network byte order. The length of the option MUST always be divisible by 4 and has a minimum length of 4.

The Directory Agents listed in this option MUST be configured with the a non-empty subset of the scope list that the Agent receiving the Directory Agent Option is configured with. See the notes below.

The SLPv2 specification [3] defines how to use this option.

4. SLP Service Scope Option

The scope list is a comma delimited list which indicates the scopes that a SLP Agent is configured to use.

```

      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
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|  Code = 79  |      Length      |  MANDATORY  | <Scope List>...
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+

```

The Length indicates the number of bytes which follow. Since the Scope-List String is encoded using UTF-8 [4] characters, it may be the cast that the Length is not the same as the number of characters in the Scope-List String. The Length value must include one for the 'MANDATORY' byte.

The 'MANDATORY' byte determines whether SLP Agents override their static configuration for scopes with the <Scope List> string provided by the option. This allows DHCP administrators to implement a policy of assigning a set of scopes to Agents for service provision. If the MANDATORY byte is zero, static configuration takes precedence over the DHCP provided scope list. If the MANDATORY byte is nonzero, the <Scope List> provided in this option MUST be used by the SLP Agent.

The Scope List String syntax and usage are defined in the SLPv2 specification [3].

4.1. Zero Length Scope-List String Configuration

A SLP Service Scope Option which indicates a Length of 1 (in other words, omitting the <Scope List> string entirely) validly configures the SLP User Agent to use "User Selectable Scopes."

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The SLP Agent will use the aggregated list of scopes of all known DAs. If no DAs are known, the UA will use SA discovery to determine the list of scopes on the network, as defined in [\[3\]](#).

Note that this configuration is tantamount to removing all centralized control of the scope configuration of hosts on the network. This makes it possible for every User Agent to see every service. This may not be desirable as users may not be able to or desire to decide which services are appropriate for them.

5. Security Considerations

If a malicious host is able to insert fraudulent information in DHCP OFFER packets sent to a prospective SLP Agent then the SLP Agent will be unable to obtain service, or may unwittingly be directed to use the incorrect services.

Many opportunities for denial of service exist. A service agent could find that it might rely on fraudulent or otherwise malicious directory agents to advertise its services. DHCP OFFERS could prevent the regular SLP framework from functioning by directing clients to not use multicast, to use nonexistent directory agents and so on.

These difficulties are inherited from the much larger and more serious problem, viz. securing or authenticating any information whatsoever from a DHCP server (or client!) is not possible in common DHCP deployments.

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