

Distributing Address Selection Policy using DHCPv6

draft-ietf-6man-addr-select-opt-01

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Rationale

- RFC 3484 supports modification of host address selection behaviour by changes to the address selection policy table
 - RFC 3484-bis updates the default policy table
 - Entering WGLC in 6man soon
- This draft provides a mechanism to distribute policy via DHCPv6
 - So need dhc WG review of the proposed option

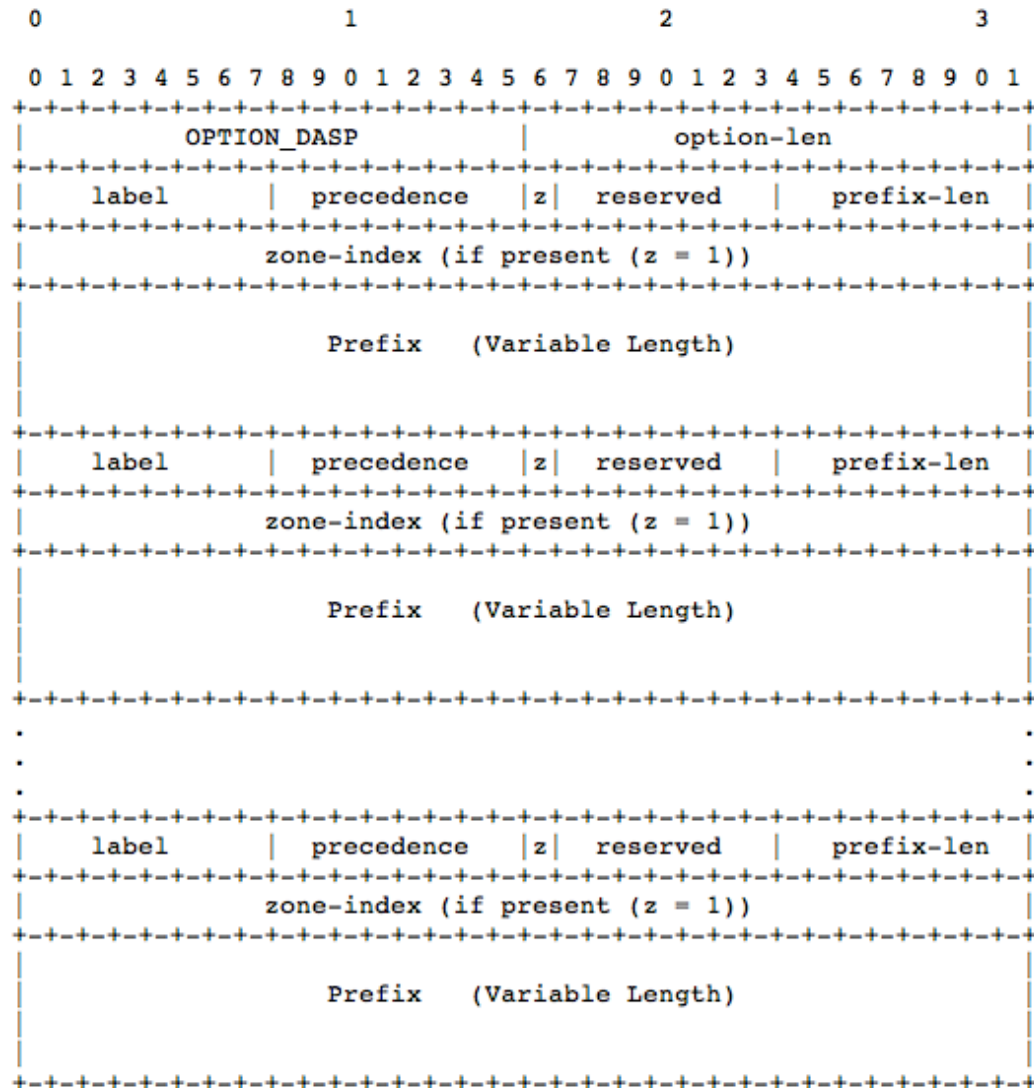
Default policy table

- RFC 3484-bis updates the table to be:

Prefix	Precedence	Label
::1/128	60	0
fc00::/7	50	1
::/0	40	2
::ffff:0:0/96	30	3
2002::/16	20	4
2001::/32	10	5
::/96	1	10
fec0::/10	1	11

- DHCPv6 option allows policy to be changed site-wide or per host if required

Proposed option



option-code: OPTION_DASP (TBD)

option-len: The total length of the label fields, precedence fields, zone-index fields, prefix-len fields, and prefix fields in octets.

label: An 8-bit unsigned integer; this value is used to make a combination of source address prefixes and destination address prefixes.

precedence: An 8-bit unsigned integer; this value is used for sorting destination addresses.

z bit: 'zone-index' bit. If z bit is set to 1, 32 bit zone-index value is included right after the "prefix-len" field, and "Prefix" value continues after the "zone-index" field. If z bit is 0, "Prefix" value continues right after the "prefix-len" value.

reserved: 6-bit reserved field. Initialized to zero by sender, and ignored by receiver.

zone-index: If the z-bit is set to 1, this field is inserted between "prefix-len" field and "Prefix" field. The zone-index field is an 32-bit unsigned integer and used to specify zones for scoped addresses. This bit length is defined in [RFC3493](#) [[RFC3493](#)] as 'scope ID'.

prefix-len: An 8-bit unsigned integer; the number of leading bits in the prefix that are valid. The value ranges from 0 to 128. The Prefix field is 0, 4, 8, 12, or 16 octets, depending on the length.

Prefix: A variable-length field containing an IP address or the prefix of an IP address. An IPv4-mapped address [[RFC4291](#)] must be used to represent an IPv4 address as a prefix value.

Considerations

- Discussion in 6man on possible re-introduction of a privacy bit in the option
 - Allows per-prefix determination of use of RFC 4941
- Client node should provide support to either replace entire table or ignore DHCPv6 option (e.g. if manually configured)
- Need to consider case where host receives multiple policy table option responses
 - Usual case is single homed, so no problem
 - Do not use OPTION_DASP with multiple responses unless explicitly configured to do so

Next steps?

- Does the option and its definition look reasonable to the dhc WG?
- 6man will be going WGLC on 3484-bis soon
 - That will force resolution of privacy bit issue, after which the DHCPv6 option can go to WGLC