Remote Stateful Autoconfiguration draft-mrugalski-remote-dhcpv6-01

IETF 79, Beijing
November, 2010

Tomasz Mrugalski

Gdansk University of Technology

The concept

Intended purpose (why):
- Mobile node (client) wants to learn configuration available at destination before switching over

Goal (what):
- Generic mechanism used to discover available networks
- Not tied to any specific mobility mechanism
- Knowledge can be leveraged in various ways (out of scope)

Mode of operation (how):
- Client learns addresses of DHCPv6 servers located in neighboring networks
- Client obtains configuration remotely (unicast)
- Client switches location
- Client confirms already obtained addresses

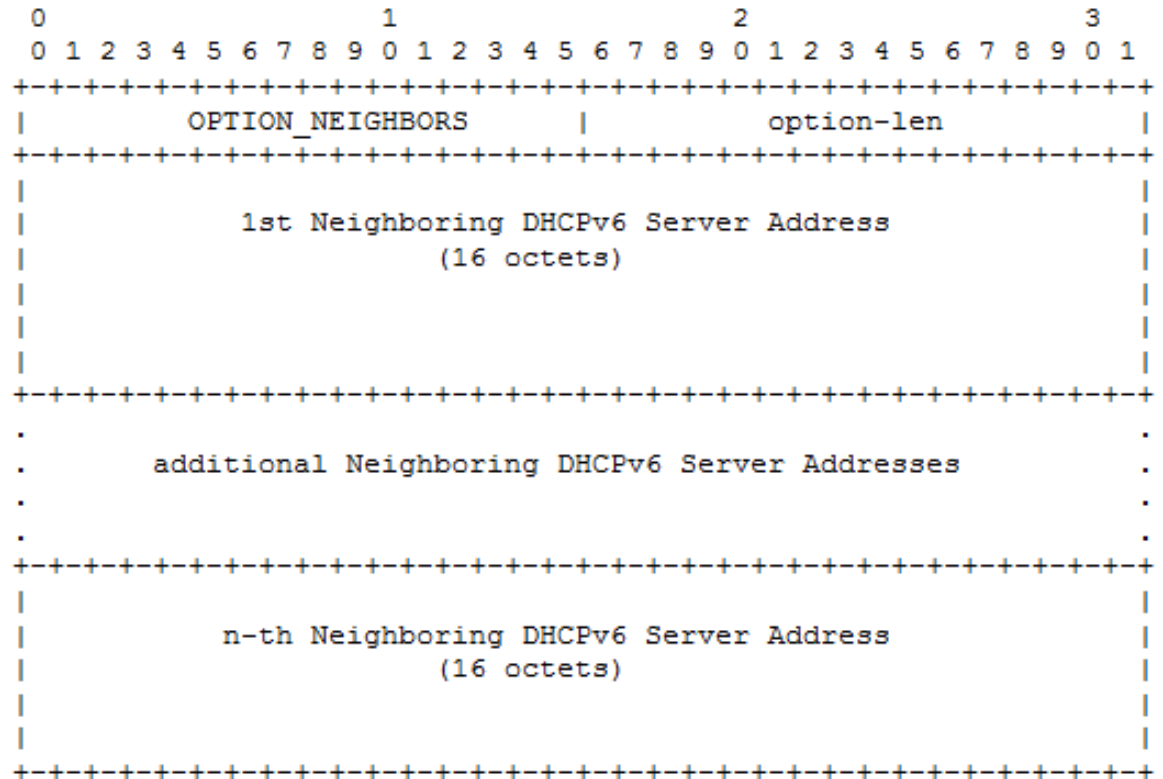# Remote Autoconfiguration
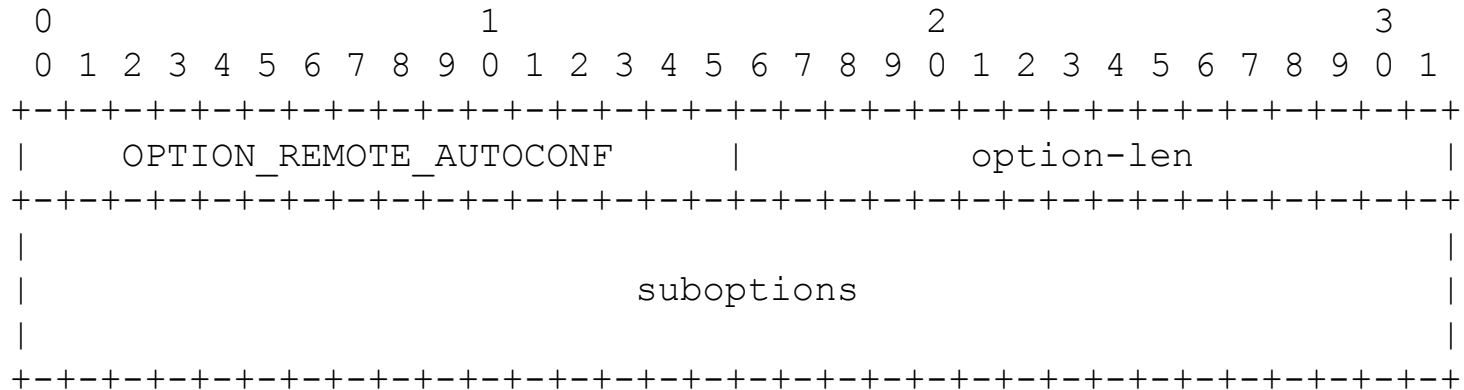## The concept
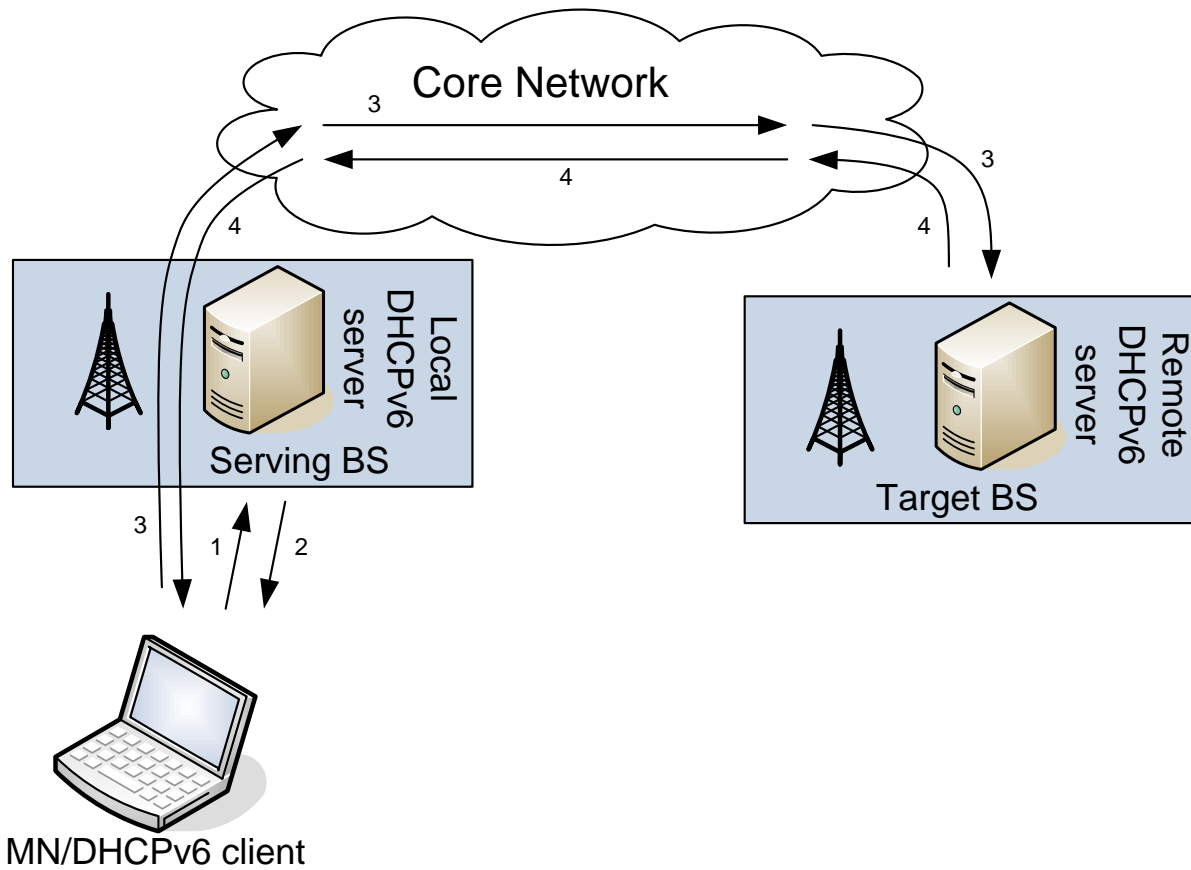
Neighbor Discovery Option

- Commonly used format
- Mechanism to learn about neighboring networks (possible handover candidates)

Use as usual

- Client requests in ORO
- Server provides, if requested

```
 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_NEIGHBORS        |           option-len          |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
|                                                               |
|            1st Neighboring DHCPv6 Server Address              |
|                        (16 octets)                           |
|                                                               |
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
.                                                               .
.          additional Neighboring DHCPv6 Server Addresses       .
.                                                               .
.                                                               .
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
|                                                               |
|            n-th Neighboring DHCPv6 Server Address             |
|                        (16 octets)                           |
|                                                               |
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Remote Autoconfiguration Option

```
 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_REMOTE_AUTOCONF      |          option-len           |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
|                         suboptions                            |
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Used as a boolean flag to indicate remote autoconfiguration
  (aka „ignore the unicast address")
- Client sends in its messages (SOLICIT, REQUEST)
- Forward compatibility
  (Currently no suboptions defined)

Example Use Cases

Client uses obtained knowledge:

1. During destination selection process.

2. To inform its correspondent nodes about incoming CoA address change

3. …

Outstanding issues

1. Is IPv6-L2 mapping needed?
2. Server modification required („consider client local despite unicast")
3. …

Next steps

- Intended status: Experimental (Correct?)

- Work toward individual submission?
- Work toward adopting the draft as WG item?
- Drop the work?