

# **Multiple Relay Agents' Option**

DHC, 2009.11

# Agenda

- **Problem**
- **Solution**
- **Summary**

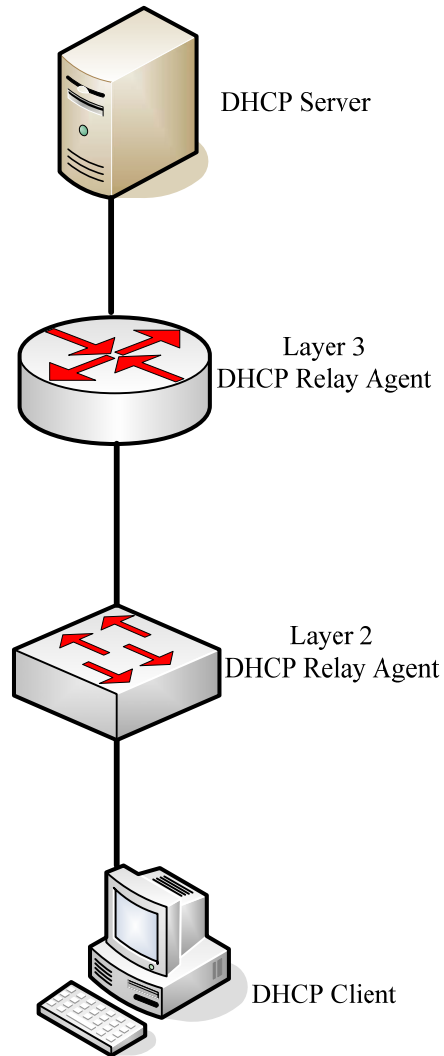
# Problem

- RFC 3046 define option 82, which can be used by DHCP server to implement IP address or other parameter assignment policies and help relay agent to forward the DHCP reply to the client.
- In some network configurations, DHCP server and clients are separated by multiple Relay Agents. Some unique requirements may not be meet very well through option 82 as in <http://www.ietf.org/internet-drafts/draft-huang-dhc-relay-ps-00.txt>.
  - Multiple relay agents can't insert their information in the same DHCP message
  - Lack of agent's ID to identify who insert the option

# Agenda

- **Problem**
- **Solution**
- **Summary**

# Solution



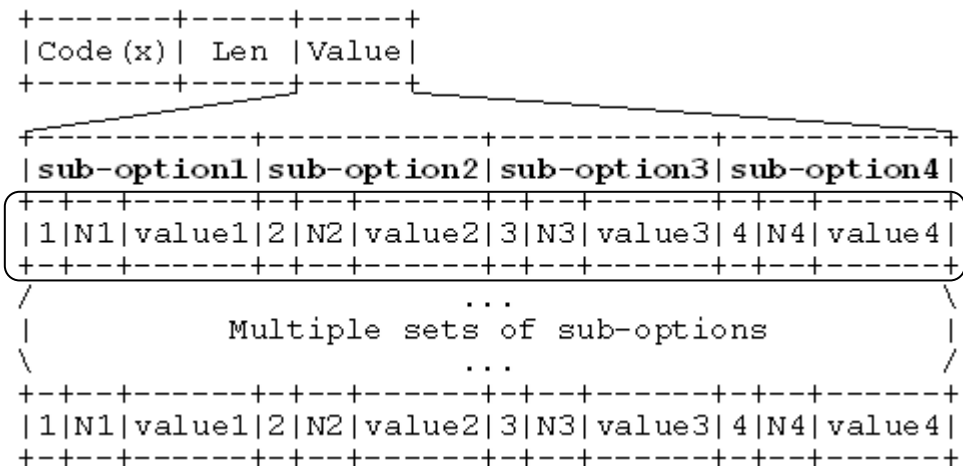
- Mechanism

- Client sends DHCP discovery
- Layer 2 relay agent inserts a new option including it's own information and forwards the discovery packet
- Layer 3 relay agent finds an existing option. So it adds it's own information to the option and forwards it
- DHCP server handles the discovery packet as normal and carry out policies based on the agents' information. After that it sends a response packet containing the original option
- Layer 2/3 relay agent can use the option to help forwarding and delete what they insert before sending out the response packet
- Client receives DHCP response without

# Solution

- Format

- Sub-option1: **Agent level**. Describe the order of agent who insert this set of sub-options.
- Sub-option2: **Agent ID**. Describe a unique identifier for the agent who insert this set of sub-options.
- Sub-option3: **IP address**. Describe IP address of the agent who insert this set of sub-options. For a pure layer 2 agent, this field could be 0.0.0.0.
- Sub-option4: **Downstream interface**. Describe the receiving interface of the DHCP packet of the agent who insert this set of sub-options.



→ A set of sub-options created by the first agent.

# Agenda

- **Problem**
- **Solution**
- **Summary**

# Summary

- This solution defines a new option to contain all information what we need. Multiple relay agents can add or modify the option to convey their own information.
- Benefits
  - Solve the problem once and for all
  - We can use option82 as before



Consider it as the work item?

Have people together working on it