

Dynamic GRE Tunnel

draft-jiang-intarea-dynamic-gre

IETF 93 IntArea WG

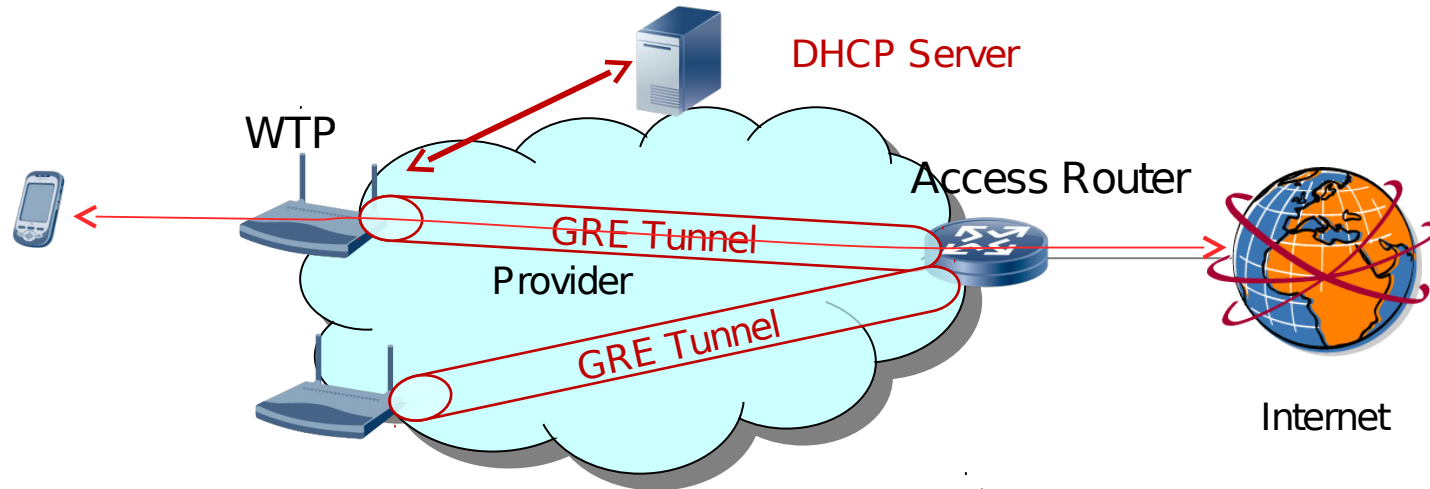
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Sheng JIANG(Speaker)

Dayong Guo

Li Xue

Requirements



- In MSO or mobile hotspot WLAN scenario, the GRE tunnels SHOULD be deployed between WTP and Access Router to carry user data (draft-ietf-opsawg-capwap-alt-tunnel).
- **For large scale usages, GRE tunnels should be auto-configurable and dynamically manageable**, such as AR address should be distributed to the WTPs
- DHCP options are extended to notify the specific Access Router address to WTP.

Dynamic GRE Tunnel Mechanism

- Discovers AR (Tunnel Concentrator) by DHCP
 - To set up a GRE tunnel, a WTP sends a **DHCP Request** to DHCP server to obtain the GRE relevant configuration parameters
 - DHCP Server replies the **DHCP Reply** to WTP with AR address in a **DHCP GRE Discovery (GD) Option** (defined in following page)
- Establish a GRE Tunnel
 - For WTP, The GRE tunnel is set up after receiving DHCP Reply with DHCP GD Option
 - AR learns WTP via the received GRE encapsulated packet from WTP.
 - Then the GRE tunnel information, IP address of WTP is checked and restored as destination of GRE tunnel on AR side

DHCP Extensions

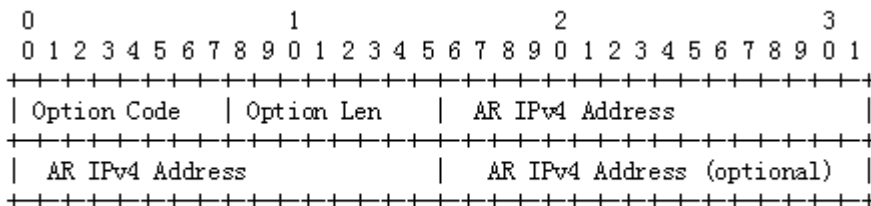


Figure 5: DHCPv4 GRE Discovery Option

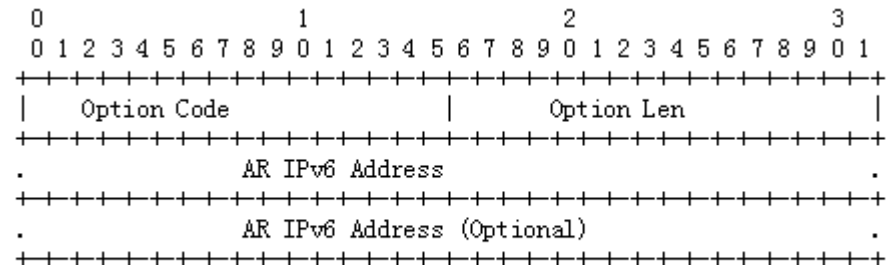


Figure 7: DHCPv6 GRE Discovery Option

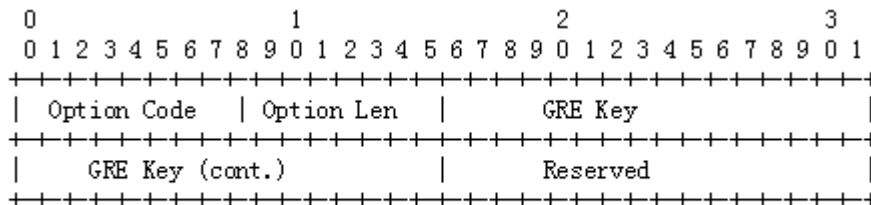


Figure 6: DHCPv4 GRE Information Option

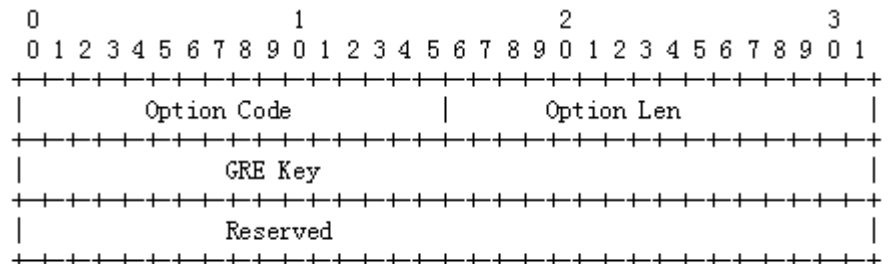


Figure 8: DHCPv6 GRE Information Option

Comments are welcomed!

WG Adoption?

Thank You!