

# DHCP Container Option

`draft-droms-dhc-container-opt-00`

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IETF-68, 2007/03/21

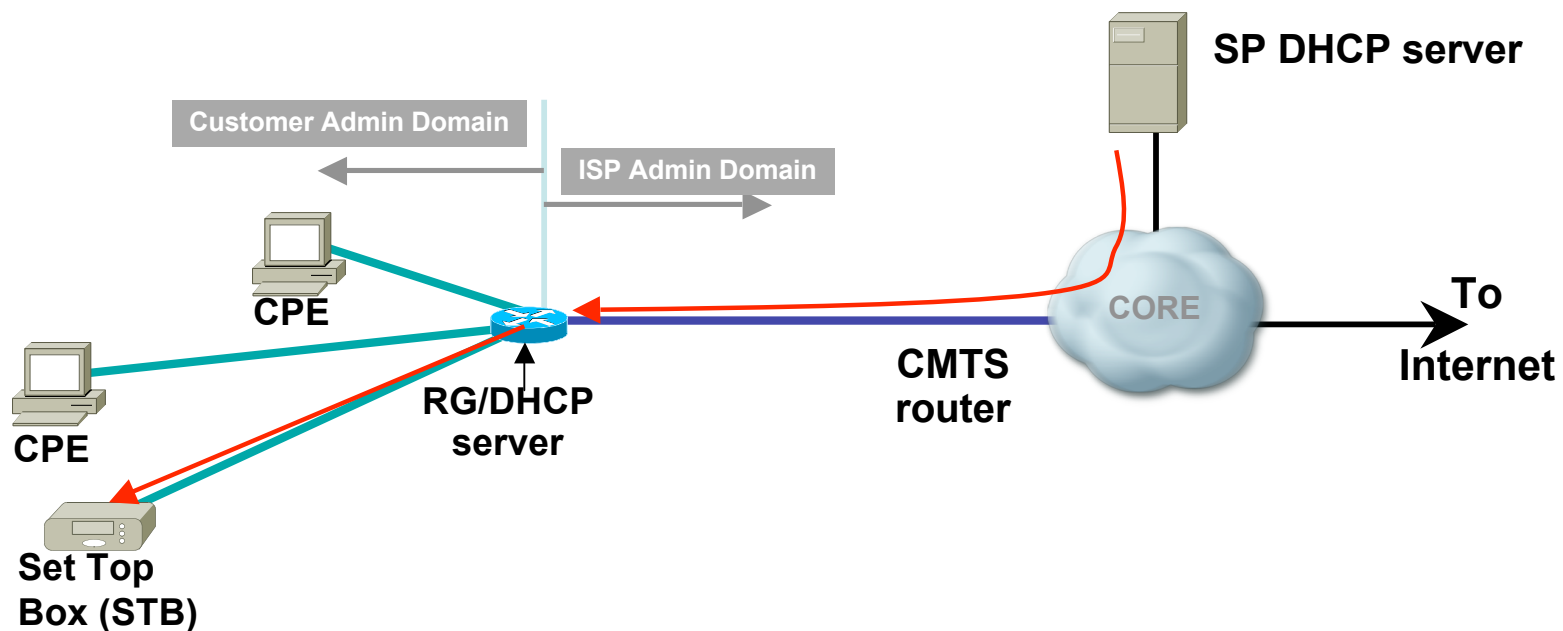
# Problem Statement

- In some DHCP service deployments, it is desirable to pass configuration options from an SP DHCP server to a CPE

Example: IPTV set-top box (STB) may need SP domain-specific information

- Problem: how to get that information through the subscriber's gateway?
- Customers: CableLabs DOCSIS, ATIS, ITU

# DOCSIS IPv6 Customer Network Model



# Requirements

- The SP server must be able to transmit different configuration information to the consumer devices than the DHCP options provided to the RG
- The SP server **MUST** be able to control which DHCP options are transmitted to the consumer device
- There must be a way for the SP server to pass DHCP options to be defined in the future to consumer devices

# Design Alternatives

- SP server passes container option to RG client, which forwards contents to RG server
- RG server does direct DHCP info request to SP server:
  - requires that the RG server include a DHCP client
  - requires that the SP server be able to differentiate between RG client and server requests
  - does not scale well, as it at least doubles the load on the SP server
- RG server passes device requests to SP DHCP server:
  - requires that the RG also function as a DHCP relay
  - requires that the RG relay function be configured with the IP addresses of the SP DHCP server(s)
  - requires that the RG relay function differentiate between DHCP messages that are processed by the RG server and DHCP messages that are processed by the SP server

# Use of Container Option

- SP DHCP server includes DHCP Container option with DHCPACK to RG client
- RG client passes contents of the option to the RG server (method of passing option contents between the RG client and the RG server is out of the scope)
- DHCP options in the container option are carried in DHCP message format (option-code/length/value); options can be passed through a DHCP client to a co-located DHCP server without specific knowledge on the part of the client or the server of the semantics of the options

# Control of Options Forwarded to CPEs

- RG server forwards only those options in CPE ORO
- RG server discards any address assignment, DHCP message type, etc. options
- Q&A...