CER ID Option
draft-donley-dhc-cer-id-option-03

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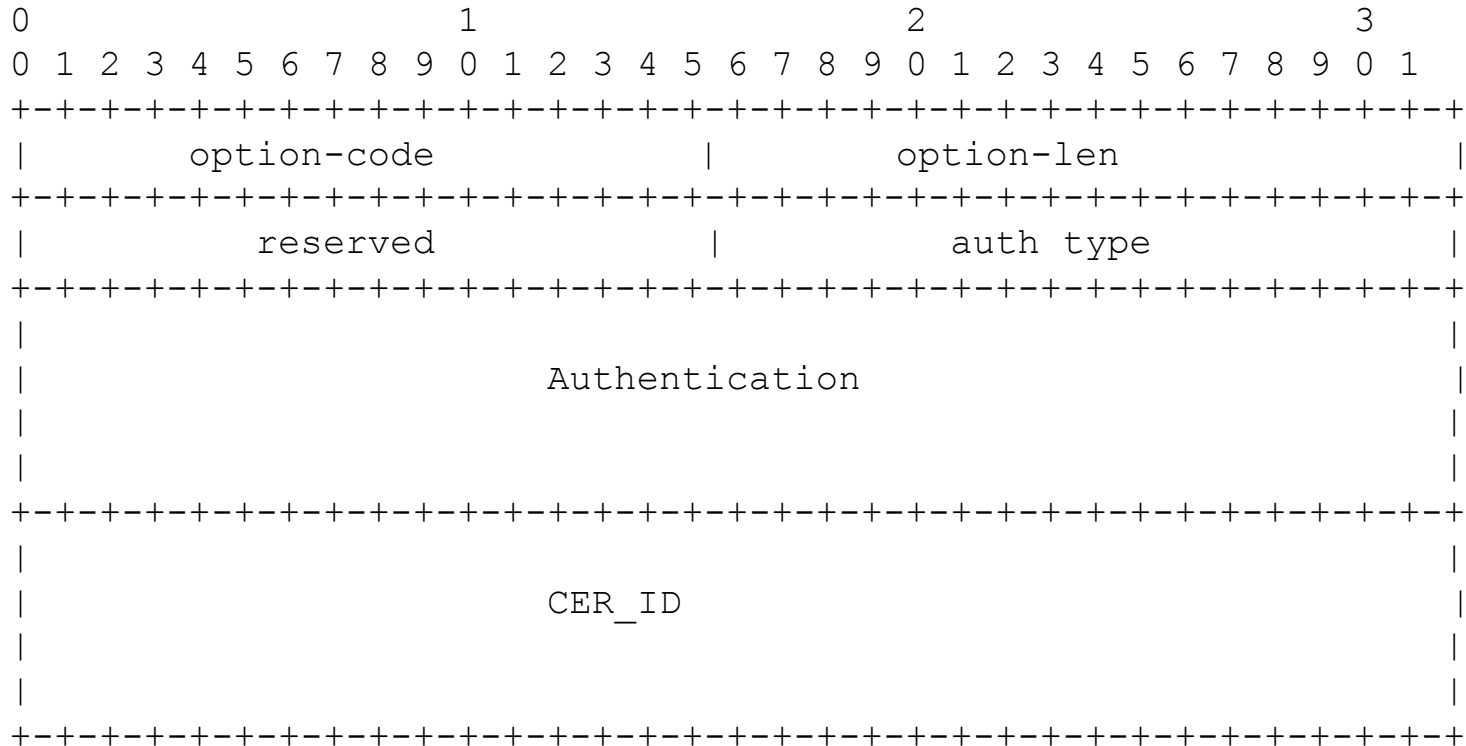
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Purpose of this draft

- Several home network addressing mechanisms require identification of Customer Edge Router (CER)

- CableLabs' eRouter team looking to use DHCP to identify the CER

- DHCP-based approach also applicable to HIPNet and HIPNet-Homenet interoperability
  - http://tools.ietf.org/html/draft-winters-homenet-sper-interaction-01

CER ID via DHCPv6 Option

- CER could be identified via a DHCPv6 option
- ISP indicates that it isn't the CER
  - By setting the CER ID option to ::
  - By not returning the CER ID option
- CER identifies itself as CER and populates the CER ID option with its IPv6 address
- Internal Routers (IRs) learn the CER ID option and pass it to other Irs
- Authentication is supported
  - null, simple password, cryptographic

CER ID 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-code           |           option-len        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|             reserved            |           auth type         |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
|                      Authentication                           |
|                                                               |
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
|                        CER_ID                                 |
|                                                               |
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

option-code   OPTION_CER_ID (TBD).
option-len   16
reserved   16
auth type   16
Authentication 128
CER_ID value   128 (IPv6 address of CER)

Applicability

- Planned for inclusion in CableLabs eRouter specification and HIPNet draft
  - http://tools.ietf.org/html/draft-grundemann-hipnet-00
- Provides interoperability between HIPNet and Homenet
  - http://tools.ietf.org/html/draft-winters-homenet-sper-interaction-01
- Also could be used for other addressing mechanisms that require CER identification
- Could be extended to include other information (e.g. size of prefix delegated by the ISP) for distribution in the home

CER Change History

- CER proposal 01 – initial proposal to IETF

- CER proposal 02 – added security features for authentication

- CER proposal 03 – fixed text inconsistencies

Next Steps

- Looking for WG feedback
  - Should this option be extended?
  - Should this draft become a WG document?