Definitions of Managed Objects for MAP-E

draft-fu-softwire-map-mib-00

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Why we need MAP-E MIB

- [RFC 4087] defined tunnel MIB, supporting various tunnels such as IP-in-IP, GRE, etc.

- However, “Tunnels” in a MAP-E BR is different with the “Tunnels” supported in [RFC 4087]

- MAP-E derives stateless tunnels based on the mapping rules. We need to extend the tunnel MIB by some parameters of mapping rules.
What we need in the MAP-E MIB

- Mapping Rules: which are essential information for MAP-E auto tunnels, and the only tunnel-relevant entries that must be stored in BR/CE.

- Tunnel info: a tunnel in MAP-E BR means a specific CE connected/connecting to it.

- Conformance (common requirement)
Subtree of MAP-E MIB

mapMIB

mapRule

mapRuleEntry ::= SEQUENCE {
  mapRuleID Integer32,
  mapRuleIPv6Prefix InetAddressIPv6,
  mapRuleIPv6PrefixLen InetAddressPrefixLength,
  mapRuleIPv4Prefix InetAddress,
  mapRuleIPv4PrefixLen InetAddressPrefixLength,
  mapRuleStartPort InetPortNumber,
  mapRuleEndPort InetPortNumber,
  mapRuleEALen Integer32,
  mapRuleStatus RowStatus,
  mapRuleStorageType StorageType
}

mapTunnel

mapTunnelEntry ::= SEQUENCE {
  mapTunnelCEAddress InetAddressIPv6,
  mapTunnelStaticReceived Counter64,
  mapTunnelStaticSent Counter64,
  mapTunnelStatus RowStatus,
  mapTunnelStorageType StorageType
}
Comments and suggestions are welcomed!

Adopt as softwire WG item?

(Radius Attribute for MAP to be continued in next slide)
Radius Attribute for MAP

draft-jiang-softwire-map-radius-02

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Background

* In many networks, user configuration information may be managed by AAA
* In a fixed line broadband network, the Broadband Network Gateways (BNGs) act as the access gateway of users.
* MAP configuration information may be stored in AAA servers and user configuration is mainly through DHCPv6 protocol between BNGs and hosts/CEs.
* New RADIUS attributes are needed to propagate the information from AAA servers to BNGs.
* The MAP RADIUS attribute are designed for providing enough information to form the correspondent DHCPv6 MAP option. [I-D.mdt-softwire-map-dhcp-option].
### Attribute Definition

#### MAP-Configuration Attribute

<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>MAP Rule Option(s)</th>
</tr>
</thead>
<tbody>
<tr>
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#### MAP Rule Options

<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>Sub Options</th>
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</thead>
<tbody>
<tr>
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</table>
Attribute Definition

MAP Rule Options

Type:
1 Default Mapping Rule
2 Basic Mapping Rule (Not Forwarding Mapping Rule)
3 Forwarding Mapping Rule (Not Basic Mapping Rule)
4 Basic & Forwarding Mapping Rule
Sub options

* Rule-IPv6-Prefix Sub Option

* Rule-IPv4-Prefix Sub Option
Sub options (cont.)

* Encapsulation/Translation Flag Sub Option

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
| SubType | SubLen | E/T Flag |
```

* PSID & PSID Length & PSID Offset Sub Options

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
| SubType | SubLen | PSID |
```

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
| SubType | SubLen | PSID-len |
```

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
| SubType | SubLen | PSID_offset |
```
Comments and suggestions are welcomed!

Adopt as softwire WG item?

Thank you!

6 Nov @softwire, Atlanta