MIP4 Delivery and Handling of MCBC

draft-chakrabarti-mip4-mcbc-04
Background

- RFC3024 provides two alternatives for reverse tunneling (direct versus encapsulating)
- However, multicast/broadcast support requires the encapsulating delivery style.
- If using encapsulating delivery style, *all* traffic (even unicast) must be encapsulated from the MN to the FA.
- Current mechanism couples the delivery of MCBC & unicast packets which unnecessarily causes huge overhead for the far common unicast traffic.
- A fundamental solution for the delivery of MCBC is needed.
Proposal

- Multicast-Broadcast Encapsulating Delivery (MBED) style
  - Encapsulates MC/BC packets from MN to FA for reverse tunnelling to HA
  - Unicast packets are direct delivered between MN and FA, NO overhead!
- MBED style extends RFC3024 encapsulating delivery style
- Link-layer assisted delivery style for links of a point-to-point nature can be used.
- MBED encapsulating extension
  - TLV structure; allows different delivery styles
  - Backward Compatible with RFC3024 encapsulating Delivery Style.
- Provide a solution for MIP4 WG Charter work item #4.
Multicast-Broadcast Encapsulating Delivery extension

- FA advertises MBED support in its Agent Advertisement
- MN negotiates use of MBED extension in Registration Request

<table>
<thead>
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<th>Type</th>
<th>Skipable, TBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
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</tr>
<tr>
<td>Bit Field Value</td>
<td>0, 1, 2</td>
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<tr>
<td>Value</td>
<td>x0001 : same as RFC3024 encapsulating delivery style</td>
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<tr>
<td></td>
<td>x0002 : Multicast-broadcast encapsulating delivery style</td>
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<tr>
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<td>x0004 : Link-layer assisted delivery style for local network</td>
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MIP4 MCBC Delivery Negotiation

Agent Advertisement
MBD Supported

Build RRQ with
- Reverse Tunnel
- MB Delivery Style

RRQ:
MBDE included

RRQ: RT enabled.

Remove MBDE

RRP: RT enabled.

RRP: RT enabled.

• RT Enabled

MN
FA
HA
Question to WG

- This I-D solves a problem

- Is the WG interested in enhancing RFC3024 with the extension proposed in this I-D?
Questions & Comments?
What is Next?

• Adopt draft-chakrabarti-mip4-mcbc-04 as a work item for MIP4 WG charter item # 4