RADIUS Accounting Extensions for Traffic Statistics

draft-yeh-radext-ext-traffic-statistics-02

IETF 83 – Radext
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### Network Scenario & Requirements

<table>
<thead>
<tr>
<th>Host / Customer</th>
<th>PPPoE</th>
<th>NAS</th>
<th>RADIUS</th>
<th>AAA Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Router</td>
<td>IPoE</td>
<td></td>
<td>Accounting</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1:** Traffic Statistics of Dual-Stack Users for RADIUS Accounting

- R - NAS must be able to report the common or separated IPv4 & IPv6 traffic statistics for the differential accounting and traffic recording in dual-stack or other IPv6 transition scenario.

- Text in the BBF TR-187 Section 9.4 has been reviewed in Taipei, IETF82.
- Note that traffic statistics reporting is also needed in the IPv6 transition cases, such as DS-Lite, 6rd or the potential MAP, where AFTR (Address Family Transition Router) or BR (Border Router) acts as the broadband NAS.
Consideration on the Attribute Design

• Judgment (or consideration) on the quickly-exhausted standard type space {1-191}
  – {1-160} has been assigned till today
  – Some WG-drafts are waiting for the assignment of the type code

• 4+ design has been reviewed at IETF82, Taipei
  – Standard-type (2*4) in flat mode or Extended-type (2*4) in flat mode or Extended-type (1) in group mode?
  – Design-3 (Nesting-TLV in grouping mode) sounds the final selection.
Final Attribute Design per the discussion in the ML-Roughly Completed

• Adopt nesting-TLV as the data type for the new attribute in the extended type space per draft-ietf-radext-radius-extensions;
  – Container Attribute: (might be the 1st attribute who employs TLV as the its data type)
    • Acct-Traffic-Statistics / 241.x
  – Contained Attribute:
    • Acct-Traffic-Statistics. Traffic-Type / 6-Octet / 241.x.1 / Enumerated Data Type
      – 0 for the combined traffic of IPv4 and IPv6 / 1 for the separated traffic of IPv4 / 2 for the separated traffic of IPv6
    • Acct-Traffic-Statistics. Input-Octets / 10-Octet / 241.x.2 / Integer64 Data Type
    • Acct-Traffic-Statistics. Output-Octets / 10-Octet / 241.x.3 / Integer64
    • Acct-Traffic-Statistics. Input-Packets / 10-Octet / 241.x.4 / Integer64
    • Acct-Traffic-Statistics. Output-Packets / 10-Octet / 241.x.5 / Integer64
  – Grouping traffic statistics (sub-)attributes (Input/Output-Octect/Packet) into one container attribute.
  – The contained attribute of Traffic-Type might provide the extensibility for future use.
Discussion

• New Requirements
  – Traffic of DSCP (6-bit)?
    • Design Question:
      – 1. New sub-attribute?
      – 2. New code for traffic-type in the sub-attribute of Acct-Traffic-Statistics.Traffic-Type?

  – Some ‘fancy’ mentioned in draft-winter before such as: ‘Traffic on TCP/80 to example.com’?
    • Design Question
      – New sub-attribute to specify the ‘traffic name’?
Proposal for Next Step

• A new WG item?
  – Reasons:
    • Clear requirements from the industry
    • Roughly consensus on the attribute design
      – Thanks for the discussion on the ML
    – Co-authorship for the WG item?

Q&A?!  
No IPR is aware in this draft.
Extensive Discussion on WG Re-charter ‘RADIUS Extensions for Dual Stack Access’

• Indication the default configuration on the NAS for the users
  – 1. Attribute of ‘Stack-Type’
    • IPv4-Only / IPv6-Only / Dual-Stack
  – 2. Attribute of ‘Access-Type’
    • PPPoE / IPoE
      – Host / CE
      – Numbered by SLAAC / DHCPv6 – Host / CE
      – Numbered / Unnumbered – CE