LoRaWAN Authentication with RADIUS

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LoRaWAN Authentication - LoRaWAN 1.0 Join procedure

1. Commissioning
2. Over the Air Activation (Join Procedure)
LoRaWAN Authentication - Message Definition

• The request (join-request)

<table>
<thead>
<tr>
<th>Size(bytes)</th>
<th>8</th>
<th>8</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Join Request</td>
<td>AppEUI</td>
<td>DevEUI</td>
<td>DevNonce</td>
</tr>
</tbody>
</table>

• The Response (join-accept)

<table>
<thead>
<tr>
<th>Size(bytes)</th>
<th>3</th>
<th>3</th>
<th>4</th>
<th>1</th>
<th>1</th>
<th>16(opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Join Accept</td>
<td>AppNonce</td>
<td>NetID</td>
<td>DevAddr</td>
<td>DLSets</td>
<td>RxDelay</td>
<td>CFList</td>
</tr>
</tbody>
</table>
LoRaWAN Authentication with RADIUS

1. Commissioning
2. Over the Air Activation (Join Procedure)
3. RADIUS Extension

* MIC field empty. To be calculated by the RADIUS server.
** Optional field.
LoRaWAN Authentication with RADIUS

• New RADIUS Attributes
  – JoinRequest (containing the join-request)
  – JoinAnswer (containing the join-accept)
  – Nwkskey (containing the NwkSKey)
  – Appskey (containing the AppSKey, optional)
Current status and Expectations

Changes from previous draft version(01):

- introduction section 1

- Added reference to RFC6158 “RADIUS Design Guidelines" for the data structures defined outside RADIUS

Lpwan:
- First working group meeting held in ietf97 seoul.

- AAA infrastructure not part of the current charter.

- But, Inclusion of AAA server in LPWAN architecture
draft-minaburo-lpwan-gap-analysis-02

Radext:

- Though this draft speaks more about lorawan, it uses RADIUS and its architecture for transport we would need the help in refining the attributes, if needed, further in radext group.
LoRaWAN Authentication with RADIUS

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