IPv6 over Low power WPAN WG (6lowpan)

65th IETF
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- **We assume people have read the drafts**

- **Meetings serve to advance difficult issues by making good use of face-to-face communications**

- **Be aware of the IPR principles, according to RFC 3979**

✓Blue sheets
✓Scribe(s)

65th IETF: 6lowpan WG Agenda

09:00 - Intro and agenda   **Bormann (10)**

09:10 - Format Spec   **Montenegro (40)**

09:50 - Rechartering   **Chairs (60)**

10:50 - New Work

10:50 - ND   **Chakrabarti/Nordmark (25)**

11:15 - Routing updates   **Kim (15)**

11:30 - Serial interfacing   **Sarikaya (5)**

What is 6lowpan?

- **Interesting L2 network: IEEE 802.15.4**
  - **Low power, 20..250 kbit/s, 900 and 2400 MHz**
  - **Almost, but not entirely, unlike 802**
    - Small MTU, limited range
- **Job of 6lowpan: make this look like an IPv6 link**
  - **Classical encapsulation issues ➜ format document**
  - **Reachability: mesh routing**
  - **No multicast: emulate, avoid (e.g., ND)**

6lowpan Wiki

- **http://6lowpan.tzi.org**
- **Read: Everyone**
- **Update/Create: AuthorGroup**
  - **Send mail to cabo@tzi.org to get in there**
- **Your changes are welcome**
  - **If we really don't like them, we'll revert them :-)**
- **Gives us a chance to compile material that will be useful for next steps**
  - **Of course, mailing list is better for actual discussion**

WG secretary

RFC 2418:

6.2. WG Secretary

   Taking minutes and editing working group documents often is performed by a specifically-designated participant or set of participants. In this role, the Secretary's job is to record WG decisions, rather than to perform basic specification.

Open Milestones (from WG charter page)

- **Mar 05**   draft-ietf-6lowpan-problem: WG last call
- **Apr 05**   **draft-ietf-6lowpan-problem � IESG**
  - **Informational**
- **May 05**   **draft-ietf-6lowpan-format: WG last call**
- **Jul 05**   **draft-ietf-6lowpan-format � IESG**
  - **Proposed Standard**

- **Almost done…**
- **We are not chartered for work beyond this**

What we need to do today

1. **Work on finishing our core documents**
   1. **Problem statement: only editorial nits remain (see list)**
   2. **Format statement: next segment**
2. **Discuss future work**
   - **How much should we bite off?**
   - **Plan for a Rechartering that keeps focus**

Segment 2: Format spec
09:10–09:50

Gabriel Montenegro

Segment 3: Rechartering
09:50–10:50

Chairs

6lowpan: Proposed New Charter Items

- **Network Setup and IPv6 ND Optimizations (PS)**
- **Problem statement stateful header compression (Inf)**
- **Recommendations for applications (Inf)**
  - **Transport, App, Discovery/Configuration/Commissioning**
- **Mesh Routing (PS)**
  - **Adaptation of existing routing protocol(s) to L2 and 6lowpan target environment**
- **Security Analysis (Inf)**

Network Setup and IPv6 ND Optimizations (PS)

Problem:

- **IPv6 ND is too expensive (power)**
- **IPv6 ND requires multicast**

Solution:

- **Use 802.15.4 network structure (coordinators)**
- **Obviate multicast by talking to coordinator**
  - **To do: Avoid single point of failure**
- ➜ **Change ND multicast semantics**
- ➜ **Define 6lowpan network setup**

Problem statement stateful HC (Inf)

Problem:

- **Stateless HC (format spec) may not be sufficient**
- **Stateful HC (2507, ROHC) too complex**
- → **Document problem**

Recommendations for applications (Inf)

Problem:

- **Applications are going to choose wildly different protocols for:**
- **Transport, Application layer protocols, Discovery/Configuration/Commissioning**
- → **Document relevant choices**

Mesh Routing (PS)

Problem:

- **existing routing protocols**
    - **are at L3**
    - **don't consider 6lowpan target environment**

Solution:

- **Leave change control with MANET**
- **Define packet formats for L2**
- **Define interoperable subset for 6lowpan**

Security Analysis (Inf)

Problem:

- **Security in Lowpans is** ☞*hard*☜

→ **Define threat model**
→ **Document suitability of existing key management schemes**

Milestones

- …
- **Finish this round in Dec 06?**

Interim?

Proposal:
- **end of May**
- **Two days**
- **Europe?**

Segment 4: New Work
10:50–11:35

Chakrabarti/Nordmark: ND
Kim: Routing
Sarikaya: Serial Interface