IPv6 over Low power WPAN WG (6lowpan)

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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

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

Bootstrapping 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 bootstrapping

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**

→ **Discuss bootstrapping/installation/commissioning/setup issues**

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