Introduction to IEEE 802
www.ieee802.org

IETF and IEEE 802 leadership meeting
Pat Thaler
IEEE 802 Vice Chair
25 July 2012
Contents

• Introduction to IEEE 802
• Introduction to IEEE 802 standards process
Introduction to IEEE 802
IEEE Standards Organization

IEEE 802 is here: a standards committee formed by the Computer Society
Some terms

• WG - Working group — responsible for developing standards in an area – may have multiple active projects.
• TAG – Technical Advisory Group — experts on a topic area that crosses working groups – does not produce standards
• Task group or task force — a part of a working group which focuses on a particular project or group of projects.
All those dots....decoder ring

<table>
<thead>
<tr>
<th>IEEE 802 Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>802.1 Bridging and Architecture</td>
<td>generally the top of the link layer</td>
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<tr>
<td>802.3 Ethernet</td>
<td></td>
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<tr>
<td>802.11 Wireless LAN (WLAN)</td>
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<tr>
<td>802.15 – Wireless Personal Area Network (WPAN)</td>
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<tr>
<td>802.16 Broadband Wireless Access (BWA)</td>
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<td>802.18 Radio Regulatory TAG</td>
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<tr>
<td>802.19 Coexistence</td>
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<tr>
<td>802.21 Media Independent Handover</td>
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<tr>
<td>802.22 Wireless Regional Area Networks (WRAN)</td>
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## IEEE 802 Organization

### Executive Committee (EC)

**CHAIR**
- Paul Nikolich

### Working Group/TAG Chairs

<table>
<thead>
<tr>
<th>802.1</th>
<th>802.3</th>
<th>802.11</th>
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<tbody>
<tr>
<td>BRIDGING/ARCH</td>
<td>Ethernet</td>
<td>WLAN</td>
</tr>
<tr>
<td>Tony Jeffree</td>
<td>David Law</td>
<td>Bruce Kraemer</td>
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<tr>
<th>802.15</th>
<th>802.16</th>
<th>802.18 TAG</th>
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<td>WPAN</td>
<td>BWA</td>
<td>Radio Regulatory</td>
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<td>Bob Heile</td>
<td>Roger Marks</td>
<td>Mike Lynch</td>
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<tr>
<th>802.19</th>
<th>802.21</th>
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<tr>
<td>Coexistence TAG</td>
<td>Media indep. handover</td>
<td>WRAN</td>
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<tr>
<td>Steve Shellhammer</td>
<td>Subir Das</td>
<td>Apurva Mody</td>
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<th>802.24</th>
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<tbody>
<tr>
<td>Smart Grid TAG</td>
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### Appointed Officers

- **1st VICE CHAIR**
  - Pat Thaler

- **2nd VICE CHAIR**
  - James Gilb

- **EXECUTIVE SECY**
  - Jon Rosdahl

- **RECORDING SECY**
  - John D’Ambrosia

- **TREASURER**
  - Clint Chaplin

- **Appointed Officers (non voting)**
  - MEMBER EMERITUS
    - Buzz Rigsbee
  - MEMBER EMERITUS
    - Geoff Thompson
## General structure of the week

<table>
<thead>
<tr>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
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<tbody>
<tr>
<td><strong>A M</strong></td>
<td>Some task forces / task group meetings</td>
<td>- Opening EC</td>
<td>Task force and task group meetings</td>
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<td>Task force and task group</td>
<td>WG plenary</td>
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<td>- 802-newcomer orientation</td>
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<td></td>
<td>- Some WG Opening plenaries</td>
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<tr>
<td><strong>P M</strong></td>
<td></td>
<td>- Remaining WG opening plenaries</td>
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<td>- Task force and task group mtgs</td>
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<tr>
<td><strong>E ve</strong></td>
<td>tutorials</td>
<td>TF/TG mtgs</td>
<td>social</td>
<td></td>
<td>WG plenary</td>
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Check WG agendas for details – there is some variation between groups
Introduction to IEEE 802 standards process
Principles of the process

• Due process — procedures are publicly available and followed consistently
• Consensus — requiring agreement of a majority or supermajority – for technical decisions here = 75%
• Openness — ensuring materially interested and affected parties can participate
• Balance — representation from all interested parties without overwhelming influence from any one party
• Right of appeal — process to ensure due process
Terms

• PAR – Project Authorization Request
  • charter for an IEEE standards project
  • similar to IETF charter but authorizes 1 standard/PAR

• CFI – Call for interest
  • brief meeting to outline a topic and determine if there is interest in investigating possible project

• Study Group
  • group formed to investigate a project and produce a PAR and 5 Criteria
  • CFI and Study Group are similar to IETF pre-charter activity

• Five Criteria
  • IEEE 802 basis for determining whether to forward a PAR.
IEEE 802 Five Criteria

• Broad Market Potential
  • Is there a need for this project?

• Compatibility
  • Does this work fit in IEEE 802 architecture?

• Distinct Identity
  • Are there already standards or projects in progress that address the need?

• Technical Feasibility
  • Can it be implemented?

• Economic Feasibility
  • Suitable for its intended application?
IEEE 802 standards development life cycle – part 1

- **Call for Interest (CFI)**
  - Adequate interest?
    - **Study Group**
      - Investigates forming a project
      - Produce PAR and 5 Criteria
    - **Working Group and EC review**
      - EC approves
        - Forward PAR to NesCom
    - **NesCom & Standards Board review**
      - Standards Board approval
    - Start work in Working Group
Opportunities for Pre-PAR Input

• Participate in Study Group
• Timeline for consideration of new work* PARs
  • 30 days before plenary – PAR and 5 criteria links sent to EC reflector
    • Links are then posted at http://www.ieee802.org/PARs.shtml
  • 5 PM Tuesday of the plenary – comment deadline
  • 5 PM Wednesday of the plenary – comment responses posted
  • EC votes on forwarding the PAR on Friday of the plenary

*Doesn’t include projects that introduce no new functionality, e.g. error corrections and revisions to consolidate documents)
IEEE 802 standards development life cycle – part 2

1. Review proposals
2. Create and refine draft
3. Draft complete?
4. Material selected?
5. Review ballot comments, modify draft as needed
6. Changes or new disapproves?
7. Recirculate changes and disapprove comments
8. No changes and no new disapproves, 75% approve and Working Group approves forwarding to sponsor ballot?

Working Group ballot
Working Group Ballot

- Drafts are available to Working Group members or through liaison arrangements
- Initial Ballot is open a minimum of 30 days
- Ballot announcements are on WG reflectors
- All comments are responded to regardless of voting status (e.g. voter, observer) of submitter.
IEEE 802 standards development life cycle – part 3

Request EC approve forward to sponsor ballot

EC approval?

Sponsor ballot

Changes or new disapproves?

Review ballot comments, modify draft as needed

No changes and no new disapproves, 75% approve

Request EC approve forward to RevCom

RevCom approval

Standards Board approval

Prepare for publication

Published standard

EC approval?

Changes or new disapproves?

No changes and no new disapproves, 75% approve

Request EC approve forward to sponsor ballot

Sponsor ballot

Review ballot comments, modify draft as needed

Published standard
Sponsor Ballot

• Voting on IEEE 802 projects is by individual
• Voter pool is formed before ballot
  • Members of the IEEE Standards Association can join any IEEE 802 sponsor ballot pool
  • Non-members can join by paying per ballot fee
• To be notified of IEEE 802 ballot pool formation
  • go to myProject at http://development.standards.ieee.org
  • Manage Activity Profile
  • check the boxes for any WGs or projects of interest under IEEE Computer Society; LAN/MAN Standards Committee
• Comments from those not in the pool can be entered by the WG chair.
After a Standard is completed

• Many IEEE 802 Working Groups have a maintenance process
  – Maintenance request can be entered to fix errors or bugs
  – Shouldn’t be used to add features/functionality
  – WG evaluates the request and may
    – Use errata or corrigenda to fix urgent problems
    – Fix in the scope of an existing amendment
    – Fix at next revision
    – Decide no change is necessary
Resources

• IEEE 802 home page:
  – http://www.ieee802.org

• Links to IEEE and IEEE 802 procedural documents:

• Links to IEEE 802 WG and TAG pages: