IEEE P802.3as
Frame Expansion Task Force

Report to 802.3 CSMA/CD WG

Atlanta, Georgia
14 March 2005
Agenda

- Reflector and web
- IEEE 802.3 standards process
- Objectives
- Report on January interim
- Proposed frame format changes
- Project timeline
- Plan for week
Reflector and Web

- List subscribers: 64 (as of 3/14)
- To subscribe to the Frame Expansion TF reflector send an email to:
  listserv@ieee.org
  with the following in the body of the message:
  subscribe stds-802-3-fe <first name> <last name>
- Frame Expansion TF web page URL:
  http://www.ieee802.org/3/as/
IEEE 802.3 Standards Process (1/4)

1. Idea
2. Call for Interest
3. 802.3 Forms SG
   - Yes: 802 EC Forms SG
   - No: RIP
4. 802 EC Forms SG
   - Yes: Study Group Meetings
   - No: RIP
5. Study Group Meetings
   - Yes: Objectives
   - No: RIP
6. Objectives
   - Yes: PAR
   - No: RIP
7. PAR
   - Yes: 802.3 Approve
   - No: RIP
8. 802.3 Approve
   - Yes: Approved PAR
   - No: RIP
9. RIP
   - Yes: NESCom Approve
   - No: RIP
10. NESCom Approve
    - Yes: STB Approve
    - No: RIP
11. STB Approve
    - Yes: Yes
    - No: No

5 Criteria

1. Approved PAR
IEEE 802.3 Standards Process (2/4)

- Approved PAR
  - Task Force Meetings
    - Objectives
      - Proposals Selected
        - Yes
        - No
      - Yes
    - No

- D1.0
  - Task Force Review
    - D1.n+1
      - TF Review Done
        - Yes
        - No
      - No
      - To 802.3 WG Ballot
        - Yes
        - No

- D2.0
  - A
IEEE 802.3 Standards Process (3/4)

802.3 WG Ballot

- > 75 %
  - No: RIP
  - Yes: Comments
    - No: D2.n+1
    - Yes: D3.0 Forward to LMSC

D3.0

- No: A
- Yes: EC Forward to LMSC
  - No: A
  - Yes: B
IEEE 802.3 Standards Process (4/4)

LMSC Sponsor Ballot

> 75 %

Yes

Comments

No

RIP

Yes

D3.n+1

No

802.3 Forward to RevCom

Yes

No

B

RevCom Review

Yes

RevCom Approval

No

B

STB Approval

Yes

Std

No

RIP
Objectives

1) Preserve the IEEE 802.3 MAC data service interface
2) Preserve the basic frame format
3) Maintain the maximum data field length (1500 octets)
4) Increase the maximum frame size exclusively for optional prefix and suffix fields in envelope frames
5) Redefine the Tagged frame format as an envelope frame format
6) At a minimum, support:
   a) IEEE 802.1Q Virtual Bridged LANs
   b) IEEE 802.1ad Provider Bridges
   c) IEEE 802.1AE MACSec
   d) ITU-T SG15 Ethernet transport encapsulations
7) Investigate and define the largest maximum frame size with minimal impact to existing networks and standards

Approved by IEEE 802.3 WG on 18-Nov-2004
January Interim

- 1-day interim, Sacramento
  - Co-located with 802.1, P802.3ar
- Reviewed proposed changes to Clauses 3 and 4
- Held joint meeting with 802.1
  - Formed architectural approach to modifying 802.3 to support larger frame size
- Appointed Glenn Parsons, Nortel as Editor
Pre-January 2005 approach

Existing

Figure 3-1 MAC frame format

- 6 OCTETS
- 6 OCTETS
- 2 OCTETS
- 46-1500 OCTETS
- 4 OCTETS

MAC CLIENT DATA

PAD

FCS

Replaces Tagged frame format

Figure 3-3 Envelope MAC frame format

- 6 OCTETS
- 6 OCTETS
- 2 OCTETS
- 2-p OCTETS
- 2 OCTETS
- 46-1500 OCTETS
- 0-s OCTETS
- 4 OCTETS

DA
SA
L/T
MAC CLIENT DATA
PAD

Prefix
Suffix

FCS

p is 2 to max[2, TBD – suffixSize]
s is 0 to max[0, TBD – prefixSize]
**Post-January 2005 approach**

*Consolidated, simplified*

Figure 3-1 MAC frame format

<table>
<thead>
<tr>
<th>6 OCTETS</th>
<th>DA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 OCTETS</td>
<td>SA</td>
</tr>
<tr>
<td>2 OCTETS</td>
<td>L/T</td>
</tr>
<tr>
<td>46-n OCTETS</td>
<td>DATA</td>
</tr>
<tr>
<td></td>
<td>PAD</td>
</tr>
<tr>
<td>4 OCTETS</td>
<td>FCS</td>
</tr>
</tbody>
</table>

Where $n =$ 1500 untagged frame

$n =$ 1504 802.1Q tagged frame

$n =$ TBD envelope frame
New figure 3-2

Figure 3-2 Service primitive mappings to frame fields

MA_DATA.request (destination_address, source_address, mac_service_data_unit, frame_check_sequence)

<table>
<thead>
<tr>
<th>PREAMBLE</th>
<th>SFD</th>
<th>DA</th>
<th>SA</th>
<th>LENGTH/TYP</th>
<th>DATA</th>
<th>PAD</th>
<th>FCS</th>
<th>EXTENSION</th>
</tr>
</thead>
</table>

MA_DATA.indication (destination_address, source_address, mac_service_data_unit, frame_check_sequence)
Possible timeline

- **Held CFI / ad hoc**
- **PAR approved**
- **Formed Study Group**
- **Created Task Force**
- **TF ballot**
- **WG ballot**
- **Sponsor ballot**
- **We are here**
- **Standard!**

Legend:
- ▲ IEEE 802 Plenary
- ● IEEE 802.3 Interim
- ▼ IEEE-SA Standards Board

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>04</td>
<td>Formed Study Group</td>
</tr>
<tr>
<td>05</td>
<td>Created Task Force</td>
</tr>
<tr>
<td>05</td>
<td>TF ballot</td>
</tr>
<tr>
<td>06</td>
<td>WG ballot</td>
</tr>
<tr>
<td>06</td>
<td>Sponsor ballot</td>
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<tr>
<td>06</td>
<td>We are here</td>
</tr>
<tr>
<td>06</td>
<td>Standard!</td>
</tr>
</tbody>
</table>

**Legend**
- ▲ IEEE 802 Plenary
- ● IEEE 802.3 Interim
- ▼ IEEE-SA Standards Board
# Plans for the week

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Room</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>Wed 3/16</td>
<td>8:30a-12p</td>
<td>Montreal</td>
<td>Opening Review D0.1 (no official status)</td>
</tr>
<tr>
<td></td>
<td>3:45p</td>
<td>Hanover</td>
<td>Status update to 802.1</td>
</tr>
<tr>
<td></td>
<td>4:30p</td>
<td>Montreal</td>
<td>Resume P802.3as</td>
</tr>
<tr>
<td>Thu 3/17</td>
<td>10:30am-12p</td>
<td>Montreal</td>
<td>P802.3as closing session</td>
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</tbody>
</table>

- **Note:**
  - In the 802.3 closing session on Thursday afternoon, the new frame size will be chosen