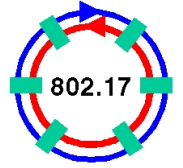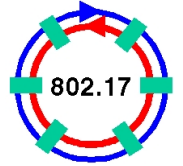# P802.17 Draft and Comment Status
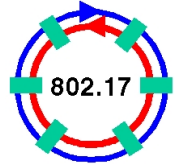
Tom Alexander
Chief Editor, P802.17

Agenda

- Status of draft

- Introduce proposed P802.17 layer diagram

- Status of comments

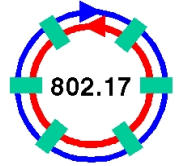- Plan for week

- The comment resolution process

Current Draft Status

- D0.1 adopted by P802.17 Task Force in January
    - Complete except for Clause 10, Topology Discovery
    - Alternative proposals for Clause 10 posted to web
- New outline adopted by P802.17 TF as well
    - Collapsed 17 clauses into 13, eliminated blank clauses
- Editors' meeting in San Jose in February
    - Preparatory to producing D0.1
- D0.1 created by editors and posted Feb 22
   - Comment period from Feb 23 to March 6

Editorial Roster - Summary

| Section	Section Editor	Technical Editor(s)
Section 1	Bob Sultan	None
Section 2	Jim Mollenaur	Steve Wood David James (C code)
Section 3	Rhett Brikovskis	Harry Peng
Section 4	Anoop Ghanwani	Necdet Uzun
Section 5	Jason Fan	Jim Kao
Section 6	Glenn Parsons	Gal Mor (Layer Management) Leon Bruckman (OAM&P)
Section 7	TBD	Marc Holness

Section 1: Introduction

- Clause 1: Overview
  - IEEE boilerplate and RPR overview
- Clause 2: Normative References
  - References to other standards and documents used by clauses
- Clause 3: Terms and Definitions
  - Explanation of terms & definitions used in clauses and annexes
- Clause 4: Abbreviations and Acronyms
  - Expansion of abbreviations and acronyms used in clauses & annexes
- Annex A: Bibliography
  - References to documents that are useful to read (but not required)

- Section Editor: Bob Sultan
- Technical Editor: none
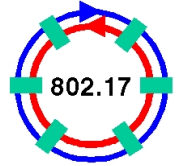
Section 2: MAC Datapath

- Clause 5: MAC Reference Model and Service Interface
  - RPR MAC introduction, structure, service interface to client
- Clause 6: Media Access Control
  - Detailed description of MAC datapath itself
- Clause 8: Frame Formats
  - Top-level view of frame formats used in RPR MAC; details of control frames provided in relevant clauses
- Annex G: CRC Calculation
  - Some implementation hints concerning CRCs
- Annex H: Code Examples
  - Informative C code examples illustrating RPR MAC functions
- Annex I: Implementation Guidelines
  - Hints and pointers to implementers of an RPR MAC

- Section Editor: Jim Mollenaur (main text), David James (Annex H, C code)
- Technical Editor: Steve Wood
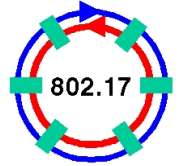
Section 3: PHY Interface

- Clause 7: MAC Physical Interface
  - Overview of PHY interface, including service interface, and introduction to supported PHYs

- Annex B: Transmit Clock Synchronization
  - Clock synchronization functionality associated with RPR ring nodes

- Annex C: Ethernet Reconciliation Sublayers
  - Reconciliation sublayer and PHY details for 1G and 10G Ethernet (LAN+WAN PHY)

- Annex D: SONET/SDH Reconciliation Sublayers
  - Reconciliation sublayer and PHY details for SONET/SDH (HDLC+GFP)

- Section Editor: Rhett Brikovskis
- Technical Editor: Harry Peng

Section 4: MAC Fairness
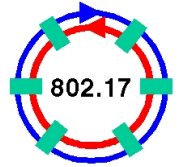
- Clause 9: MAC Fairness
  - Functionality, packet formats and state machines associated with RPR MAC fairness

- Section Editor: Anoop Ghanwani
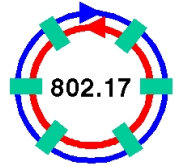- Technical Editor: Necdet Uzun
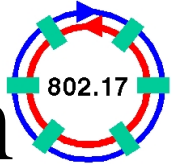
Section 5: Topology & Protection

- Clause 10: Topology Discovery
  - Topology discovery and reporting functions of RPR MAC

- Clause 11: Protection
  - Protection switching functions of RPR MAC

- Section Editor: Jason Fan
- Technical Editor: Jim Kao

Section 6: OAM, Layer Mgmt.

- Clause 12: Operations, Administration, Maintenance
  - Configuration, Fault and Performance management functionality associated with RPR ring

- Clause 13: Layer Management
  - Managed object structure and management interface presented to Station Management Entity by RPR MAC

- Annex E: MIB
  - Formal definition of actual managed objects

- Section Editor: Glenn Parsons

- Technical Editors: Gal Mor (Layer Management), Leon Bruckman (OAM)

Section 7: Bridging Conf.
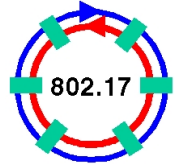
- Annex F: Bridging Conformance
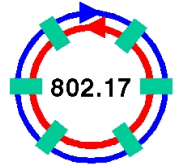 - RPR-specific issues concerning compliance with Std 802.1D bridging
  - Will also propose modifications to Std 802.1D to handle P802.17 MAC-specific considerations

- Section Editor: TBD (Tom Alexander acting)
- Technical Editor: Marc Holness

Proposed Layer Diagram

- A common layer diagram is needed for the P802.17 standard
  - Each clause needs to reference the layer diagram to indicate its position in the protocol hierarchy relative to the other clauses
  - The layer diagram also provides a grasp of the scope of the clause and the standard
  - The layer diagram is also a useful reference to the client (user) of the services provided by the clause, and to the services required by the clause

- Suitable layer diagrams have been presented previously
  - The layer diagram should follow the 802 standard layering
  - One is proposed on the next slide, based on the layer diagrams shown in the PHY clauses

Proposed Layer Diagram

802.17

OSI REFERENCE MODEL LAYERS	RPR MAC LAYERS

HIGHER LAYERS

LLC - LOGICAL LINK CONTROL

MAC CONTROL

MAC - MEDIUM ACCESS CONTROL

OSI Layer					
Application	GE RS	10GE RS	GFP RS	SONET/SDH RS	
Presentation					
Session	GMII	XGMII/XAUI	SPI-x	SPI-x	
Transport				GFP ADAPTATION LAYER	POS ADAPTATION LAYER	GFP ADAPTATION LAYER
Network	GE PHY	10GE LAN PHY	10GE WAN PHY			
Data Link				SONET/SDH PHY		
Physical	GE MDI	10GE MDI	10GE MDI	SONET MDI	

1000 Mb/s   1 Gb/s LAN-PHY   1 Gb/s WAN-PHY   OC-n

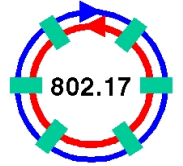**Note: The above layer diagram will undergo refinement as the draft evolves**

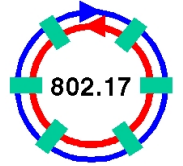# Status of Comments on D0.1

- 619 valid comments were received
  - A total of 406 of them were technical
  - 27 commenters
  - David James tops the list with 134 comments
- About 50% of the comments are directed at Section 2 (MAC Reference Model & Datapath)
  - 309 comments, of which 220 are technical
- Other clauses have a more uniform distribution
  - About 50 comments/section, with ~40 technical

Comment Distribution
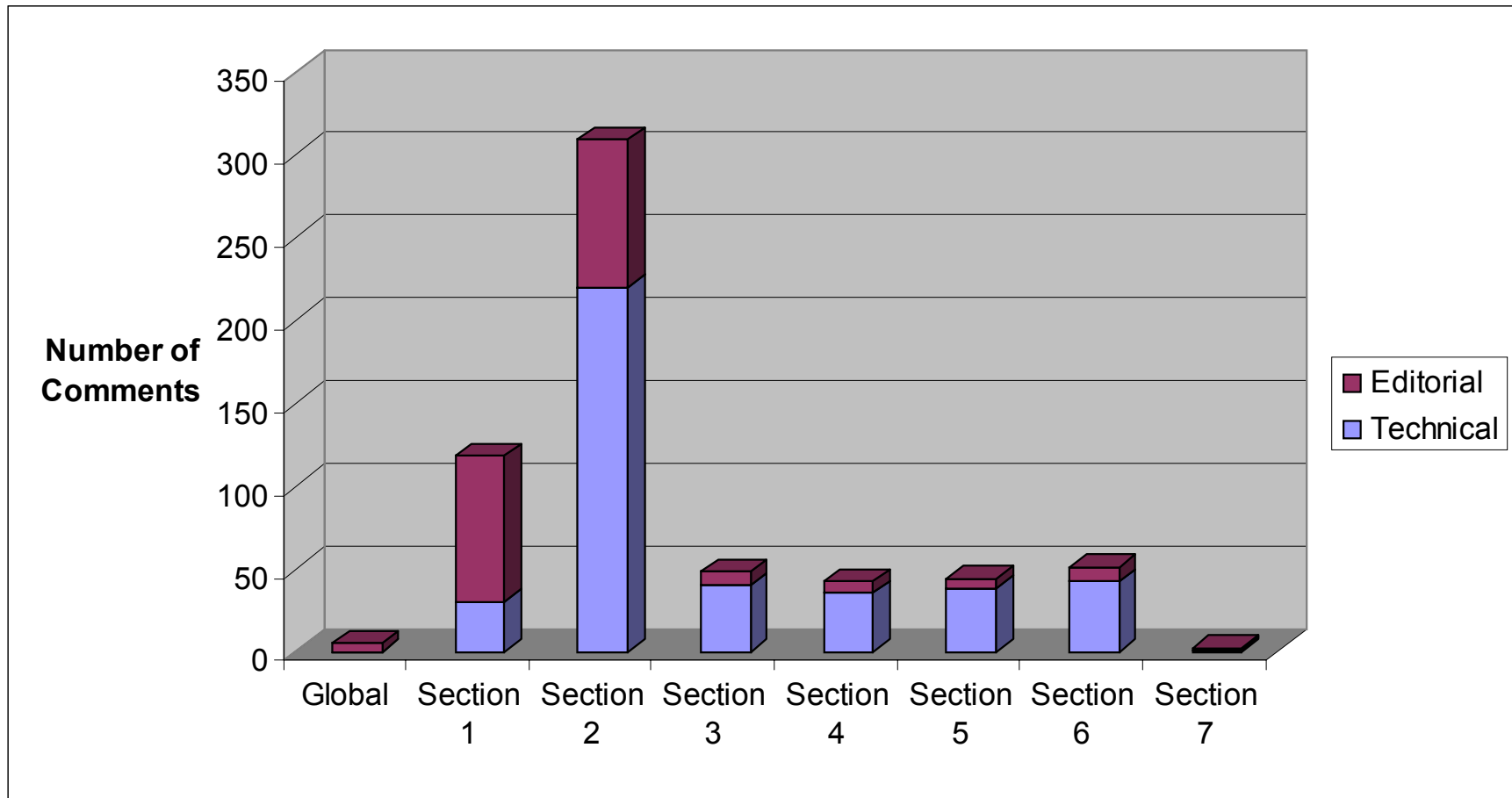
Goals For This Meeting

Strictly from an editorial perspective

- Ratify TF decision to adopt proposals for D0.1 clauses
  - Without this, we are back at square one

- Resolve comments on D0.1
  - We have 619 comments to review, discuss and resolve!

- Produce instructions for generating D1.0 from D0.1
  - Resolution of comments and adoption of proposals automatically generates these instructions

- Authorize creation of D1.0 based on instructions
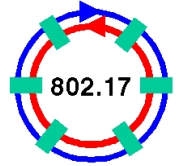
Plan For Rest of Week

- Editorial schedule:
  - Tuesday afternoon: Break into 3 tracks for comment resolution
  - Tuesday evening: Editor training by IEEE Project Editor
  - Wednesday morning, afternoon: More comment resolution
  - Wednesday evening: Section 2 comment resolution, rest go to social
  - Thursday morning: Still more comment resolution
  - Thursday afternoon: Motion Madness

- Also form ad-hoc groups and technical support groups as needed
  - Ad-hoc groups to fill major holes
  - Support groups to aid in resolving technical issues
    - Each Section should have a support group
    - Those interested in active participation in identifying issues and proposing resolutions to comments should contact the relevant Technical Editor
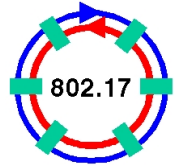
Track Breakdown

- Track 1: MAC Reference Model and Datapath
  - Section 2 has 309 comments to resolve, 220 technicals
  - All hands on deck!

- Track 2: MAC fairness, topology discovery, protection
  - Total of 86 comments, 73 technicals
  - Lots of contentious issues, though
  - May need to resolve some issues jointly with Track 1

- Track 3: Intro, PHY, OAM, Mgmt, Bridging
  - Total of 219 comments, but only ~120 technicals
  - Most should be easily resolved

NOTE: May juggle tracks around if some Sections finish early
Updates will be posted outside doors
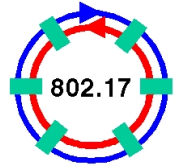
Timeline
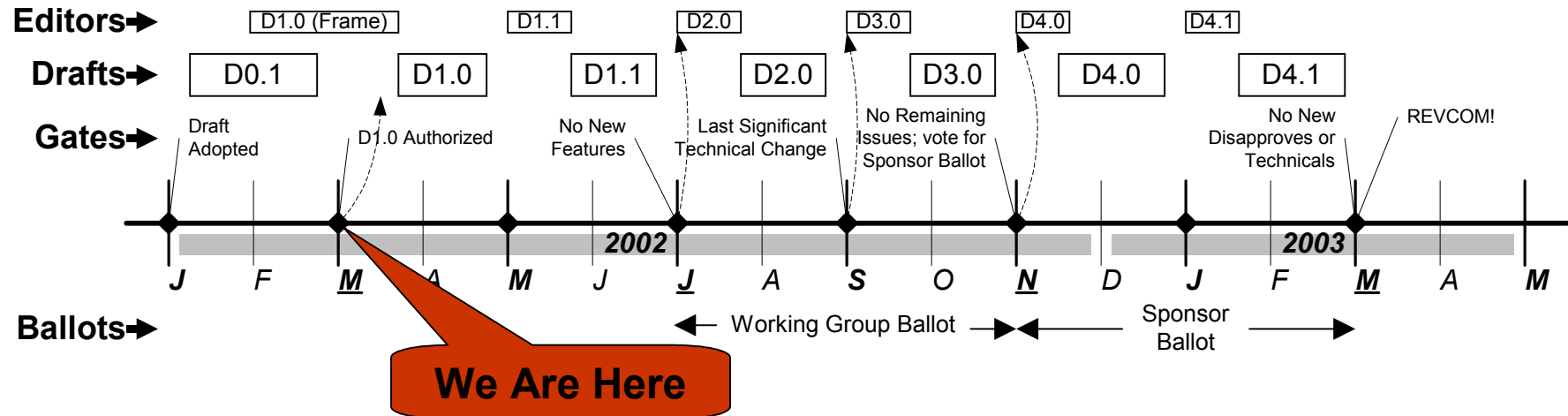
Major Drafts

D0.1   - Initial P802.17 draft, incomplete

D1.0   - Complete WG-approved P802.17 RPR draft, official IEEE Std format

D2.0   - No new features; draft is complete; editorial license withdrawn

        D2.0 is the first draft that goes out for WG ballot

D3.0   - No more significant technical changes (after D4.0)

D4.0   - No remaining editorial or technical issues

        D4.0 is the draft that is sent out for Sponsor Ballot

The Draft Creation Process

802.17

WG reviews draft & generates comments

Comment Resolution Database

Chief Editor divides comments amongst Section Editors

WG Interim or Plenary meeting

Section Editors drive comment resolution sessions at WG mtg

WG approves creation of new draft

Chief Editor divides current draft among Section Editors

About 2-4 weeks
Sometimes 1 week

Section Editor enacts changes and returns section to Chief Editor

Section Editor enacts changes and returns section to Chief Editor

Section Editor enacts changes and returns section to Chief Editor

Edited draft sections

Chief Editor approves changes and combines sections into new draft

New draft

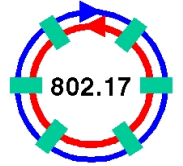Draft published; new ballot and comment cycle begins

Comment Resolution

- Each Section Editor has received the comments on his/her section
- Editors will lead comment resolution groups during the meeting to review comments and generate resolutions
  - Both Section Editors and Technical Editors have responsibility during this time
  - Comment resolution groups self-formed from the interested and qualified subsets of the full WG
- Editors will bring resolutions back into WG and request ratification
  - Most comments will not require full review by WG; they will be voted on as a basket to save time
  - Contentious issues will, however, be put up in front of the WG and voted on
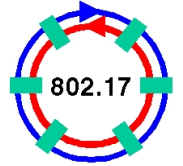
The Comment Resolution Group

vs

The P802.17 Working Group

- Comment Resolution Group
  - Subset of full WG
  - Any interested person may participate in any comment resolution group
  - This group is the first line of defense: discusses comment, proposed remedy by commenter, editor's suggestions, and generates a group remedy
  - In contentious cases, group remedy is voted on by group, and vote is recorded
  - Group remedy is not binding on WG; however, should be taken very seriously (expert opinion)

- Full P802.17 Working Group
  - Has power to review every remedy proposed by comment resolution groups if so desired, or has the power to approve all remedies unreviewed as well
  - Either ratifies remedy outright, accepts remedy with modifications, or rejects remedy and substitutes a new one
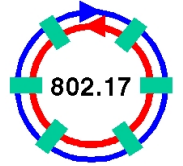 - All remedies must be approved by 75% majority
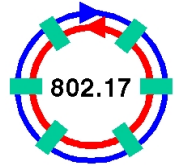
Comment Resolution Process

in comment resolution group

- Section editor puts up comment (in CRD format)
  - CRD contains the comment, suggested remedy, proposed resolutions by member of WG, editor's recommendations, etc.

- Comment resolution group then discusses it
  - Group may accept any of the proposed resolutions, or generate and accept a new one
  - Technical Editor moderates discussion and ensures that technical issues are not missed

- Section Editor records group remedy
  - CRD provides fields for recording all aspects of this process

- Original commenter not <u>required</u> to agree with resolution
  - Commenter may accept or reject resolution; if technical-binding comment, then rejection automatically means that commenter's negative vote still stands

Track Conflicts

- Due to volume of work, splitting into tracks is necessary, but …

- Splitting tracks can create conflicts
  - Commenter may not be able to attend resolution of his/her comments in 3 tracks simultaneously
  - WG members may not be able to participate in resolving all of the issues they are interested in

- Commenters and WG members should co-ordinate with editors
  - Ask editors to juggle order of comment resolution to avoid personal conflicts

- In extreme cases, some issues will have to be resolved after bringing two tracks together
  - For instance, MAC fairness issues impacting the MAC Reference Model

- However, it may not be possible to resolve every conflict
  - Communication with editors is essential

Speeding Things Up

- Comment resolution can be long and tedious
  - Large volumes of comments can take too long to resolve
  - If we spend just 10 minutes on each of the 309 comments for Section 2, we will need over 5 ten-hour days to complete comment resolution
  - Without completing comment resolution, instructions to editors to create D1.0 will be incomplete (and the entire standard will be delayed)
- Focus debate on the key technical issues
  - Technical editors will be moderating debate in the interests of progress
- Resolve deep conflicts outside the comment resolution group
  - Hallway conversations, phone calls, consultations with experts, etc.
- Give Section Editors editorial license to wordsmith remedies
  - Debating the exact wording of 619 remedies is an unnecessary waste of everyone's time; that's what the editors are there for, and besides you can always comment on it in the next cycle
  - Also, Section Editors are generally granted license to handle editorial comments on their own; focus on the technical things
- Remember that you have more rounds of comments and ballots to go
  - If you reach a deadlock, move on, and resolve the issue in a subsequent round