IEEE 802.17 RPR Working Group Meeting Minutes
Plenary Session, July 9-13, 2001
Portland Marriott Downtown, Portland, OR

Reporter: B.J. Lee and Mannix O'Conner

Note: Attendance list is attached as an Appendix.
Note: All the presentations are available on the RPRWG Web:
http://www.ieee802.org/rprsg/public/presentations/july2001/index.html

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July 9, Monday

1:00pm: Seating, Everyone
1:00pm: Welcome Slide, Mike Takefman
 - Mike introduced officers and administrative rules and procedures.
 - It is also mentioned that an Ad Hoc group is needed for a response
   to the GFP/T1X1 request for liaison.

1:30pm: Introductions, Everyone
1:30pm: Agenda Scrub, Mike Takefman


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   Motion: 2001-07-09-01 (1:30pm)

   To approve the agenda as distributed via the Web.

   (M) Bob Love
   (S) Khaled Amer


   Carried without Objections.
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1:40pm: Approval of Last Meeting Minutes, Mike Takefman

 - Straw-poll is taken to gauge whether the amount of detailed
   information in the meeting minutes is desirable. The general
   consensus is that detailed technical information captured in the
   meeting minutes is helpful.
 - The meeting minutes for the May Interim meeting is approved by
   acclamation.

1:45pm: 802.3, 802.11, 802.16 PAR discussions, Mike Takefman

 - The question in consideration is whether these new PARs are
   acceptable and valuable to IEEE 802?

Q: A protocol agnostic and generic MAC is being discussed in the 802.16
   PAR. What implication does this have on 802.17?
Q: Is EFM (Ethernet in the First Mile) PAR addressing the same problems
   as 802.17?
A: Mike will gather questions and present them to EFM on behalf of
   802.17.

1:50pm: Discussion on 802.17 Networking Need, Mike Takefman
 - Mike announces the availability of a file server for the July
   meeting, and discusses the need for Internet access during the
   meetings. Purchase of cable modem router and switches are also
   proposed.

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Motion: 2001-07-09-02 (2:00pm)

802.17 authorizes the collection of a $10 fee per person to finance the
purchase of equipment in support of meetings.  Any excess shall be used
for additional equipment purchases or be used for refreshments at the
next meeting.

      Procedural (>50%)

   (M) Bob Love
   (S) Nader Vijeh

   Approved by unanimous consent.
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2:05pm: **Presentation – Architecture and Analysis, Harry Peng, Nortel**

 - Presented summary of previously passed motions with gap analysis,
   and proposed a draft for the organization of standard sections.

Comment: Bob Love pointed out that 802.1D compatibility might need to be
   addressed as a separate supplementary PAR under 802.1 group.

2:25pm: **Presentation - EFM Overview, Howard Frazier (Chairman of EFMSG)**

 - As part of EFMSG PAR approval process, Howard presented EFMSG PAR and
   5 Criteria and invited questions from 802.17. Formal questions are
   due 5:00pm Tuesday.

 - EFM Study Group Objectives are:
     . Support subscriber access network topologies.
     . Provide a family of physical layer specifications.
     . Support far-end OAM for subscriber access networks.

Q: Do you envision that PON will use CSMA/CD?
A: No. A number of MAC proposals for subscriber access network exist,
   which are considered as "minimal augmentation to existing 802.3 MAC."
Q: How "minimal" is the change?
A: All the proposals so far have introduced small changes to MAC, all in
   the control sublayer, or in the PHY.
Q: Is EFMSG considering mechanisms for resiliency and redundancy?

A: Use of 802.3ad is being discussed.
Q: What technology is being considered for multipoint to multipoint connectivity over PON?
A: EFMSG considers PON as the point to multipoint technology. Ring topology is not being considered.
Q: Doesn't EFMSG effort overlap with that of RPRWG?
A: It is true that RPR and EFM may compete in Metro access area. In a sense, same is true with 802.3 Ethernet and 802.17 RPR. But, in general, EFM and RPR do not overlap.
Q: Have you considered using digital wrapper on the fiber for FEC?
A: There are proposals on FEC.

Comment: Joint work in EFM and RPR on OAM specifications would really be beneficial.

3:00pm: Break

3:20pm: **Presentation – Gap Analysis of Remaining Objectives, Mike Takefman**

 - Mike presented a gap analysis as a Cisco employee.

3:50pm: **Presentation – IETF IPoRPR Input to 802.17 RPRWG, Albert Herrera**

 - Albert presented IETF IPoRPR WG status, and an overview of IPoRPR framework described in the latest framework draft, draft-ietf-iporpr-framework-01.txt.

Q: How do you propose to encapsulate MPLS within RPR?
A: There are several proposals, and will be posted in the reflector.
Q: CAC and BW management in L2 would greatly complicate the MAC specification.
A: Details need to be worked out more.

Comment: Tight interaction between L2 and L3 should not be considered as desirable. Previous examples are IP over ATM and Optical networks, where the tight integration between multiple layers are avoided.

4:15pm: **Presentation – RPR Fault and Performance Monitoring Primitives and Parameters, Angela Faber, Telcordia Technologies**

 - Presented background overview on fault and performance monitoring requirements, and proposed a set of related objective motions.

Q: Are you proposing PM accumulation approach used in SONET world (e.g., 1 second interval)? How about the approach being used in the packet world?
A: A good balance between the SONET and packet worlds needs to be investigated more.

Comment: Let's not put the motions without detailed proposal on the table at the same time.

4:30pm: **Presentation – Plans to Reorganize Sub-IP Technologies in IETF, Dan Romascanu et al.**

 - "This presentation is part of an effort to enable communication and try to learn from each other group's concerns and model of dealing with the problems" of ever expanding work scope of various IEEE and IETF working groups.

4:55pm: **Presentation – SLA Delivery over RPR, Krishna Pattabhiraman, Coriolis**

 - Presented a need for SLA-aware MAC, and suggested corresponding implementation approaches.

Q: What would be the typical traffic profile of aggregated Ethernet traffic over RPR?
A: Do not know.
Q: Why can we not oversubscribe the CIR service?
A: It is not possible.
Comment: CIR SLAs cannot be achieved by doing BCN-like flow control.

5:15pm: **Presentation – IETF Ethernet Interfaces and Hub MIB WG Update, Dan Romascanu, Avaya Inc**

 - Title says it all. It is also pointed out that the RPR MIB is out of the current Ethernet MIB WG charter.

5:35pm: Terms and Definitions Ad Hoc Group work continues for another two hours, before the EFM tutorial scheduled at 8:00pm.

5:35pm: RPRWG Adjourns for the day.

July 10, Tuesday

8:00am: Seating, Everyone
8:25am: Agenda Scrub, Mike Takefman

8:30am: **802.17 position on EFM PAR, Bob Love**

 - Bob drafted formal comments and request for clarification to the EFMSG regarding the potential conflict with Distinct Identity.
 - A small group of volunteers will further refine the draft for a formal response to EFMSG on the issue (by 5:00pm Tuesday).

8:45am: **IP Differentiated Services Requirements for RPR, Siamack Ayandeh, Onex Communications**

- Presented a background on IP Diffserv, and RPR requirements for

interoperability model to achieve Diffserv compliance.

Comment: Interworking model seems to be a better choice than interoperability, since RPR is not only for IP. MPLS is also not 100% diffserv compliant (e.g., 3 bits for CoS).

9:15am: **OAM&P Requirements for RPR, Italo Busi, Alcatel**

- Analyzed OAM&P requirements for 802.17 standard specifications.

Q: Do you think that the topology defect information, such as duplicate MAC addresses, also needs be included in the MAC level OAM&P?
A: Yes.

Comment: There are many classes of failures MAC cannot handle, so mechanisms are necessary for alarm indication to higher layers.

9:35am: **Interoperable Features – CRC checking, Cut-through, Preemption., David James, Lara Networks**

- Discussed CRC generation and handling in cut-through transit path, and compatibility issue with preemption.

10:00am: **Scaling RPR with WDM and multiple rings: One control plane, Multiple transit paths, Fredrik Orava, Dynarc**

- Discussed rationale for multiple independently operating RPR rings, and implementation approaches.

Q: How would you handle out-of-order packets across multiple rings?
A: Aggregation sub-layer above the MAC will handle it.
Q: What problem does the multiple ringlets solve?
A: Capacity increase is one of them.

Comment: Scalability is also a big plus, since the aggregation and distribution only occur at add and drop points.

10:25am: Break

10:40am: **Thoughts on RPR Protection and Topology Discovery, George Suwala, Cisco**

- Presented overview description of SONET-like protection hierarchy, different protection strategies (e.g., wrapping and steering), and topology discovery mechanism.
Q: Do you have performance data on the amount of packets lost under wrapping, steering, and combined wrapping/steering scenarios?
A: Wrapping occurs within a few miliseconds.
Q: What is the advantage of having protection hierarchy in steering?

A: Same as in wrapping.

11:20am: **SWIS Advantages, Leon Bruckman, Corrigent**

- Discusses the issues of interoperability and multicast advantage of
  SWIS (Selective Wrapping and Independent Steering) which was proposed
  in May 2001 Interim meeting.

Q: Does SWIS require packet multiplexing of normal flow and wrapped flow
   under single fiber cut, requiring more capacity?
A: It is correct, and will be investigated more.

11:50am: **Mapping of RPR over SONET/SDH, Italo Busi, Alcatel**

- Analyzed and compared the possible alternatives to map RPR frames over
  a SONET/SDH container, e.g., HDLC/PPP and GFP.

Q: Have you done any study on the statistical performance of HDLC/PPP
   inflation factor?
Q: You claimed GFP is bit-rate scalable. What would be the scalability
   limit?
A: From the ASIC design point of view, the HDLC implementation is
   very difficult at high bit rate.
Q: Do you require any additional information from RPR layer to support
   GFP? If not, what is the issue here?
A: At least, it needs to be mentioned that RPR supports GFP PHY for
   interoperability.

Comment: We need to have specific and solid proposal to be considered
   seriously in 802.17. Slide ware should not be considered enough.

11:55am: Lunch Break
1:05pm: **EFM Response Discussion, Bob Love**

 - Bob presented a refined version of RPRWG response to EFMSG PAR,
   especially on the distinct identity issue. More discussions
   followed, and the following motion was approved.

Motion: 2001-07-10-01 (1:15pm)

To approve the draft RPRWG response letter to EFMSG PAR as an official
submission. (The draft letter is posted on the web.)

Technical (>=75%)

 (M) Bob Love
 (S) Jim Mollenaur

(Y) 23   (N) 1   (A) 22

Motion Carried.

1:15am: **Protection Requirements for RPR Interconnection, BJ Lee, Tropic Networks**

- Discussed a need for fast protection switching mechanism for ring interconnection, and suggested that the issue be investigated by 801.17 as a possible Informative Annex at a minimum.

Comment: Although such need exits as part of the end-to-end solution, it is considered out of the scope of 802.17.

1:40pm: **Bridging over RPR, Gunes Aybay, Riverstone Networks**

 - Presented that Carriers and ILECs wanted to build L2 transport networks, and encapsulation bridging is the simplest solution.

Q: Why do we need separate learning packets?
A: We need a separate type field, since RPR nodes may support multiple protocols.

2:00pm: **RPR Bridging – Packet Walkthroughs, Wai-Chau Hui, Nortel**

 - Presented various bridging scenarios including transparent bridging and single/double encapsulation bridging, and proposed double encapsulation bridging mechanism as a scalable solution.

Q: Is anything special required from RPR MAC for encapsulation bridging?
A: No.
Q: MAC address scaling issue is also important in provisioning.
A: Yes.

2:00pm: **Issues in Automatic Topology Discovery for RPR, Brian Holden, PMC-Sierra**

 - Discussed various issues expected in automatic topology discovery protocol considerations, and proposed a set of recommendations on the necessary requirements.

Comment: There may be potential problems with manually provisioned numbering.
2:50pm: Break

3:04pm: **RoadRunner Deployment of RPR, Michael Kelson, Road Runner**

 - Presented RoadRunner's SRP network deployment, and rationale.

Q: Do you provide any high priority SLAs?
A: No, currently only the low priority traffic is supported.
Q: What is the expected peak bandwidth from a single subscriber?
A: 8Kbits now and grows by 2Kbits per year. Each CMTS supports 2-4K customers.

3:35pm: **Topology Discovery and Changes, Frederic Thepot, Dynarc**

 - Presented a description of Dynarc's implementation of topology

discovery protocol at the boot stage.

Q: We have already passed an objective motion for masterless operation.
   Do you have comment on this?
A: Master is only necessary at boot-up time. After that, it runs
   masterless.

4:00pm: **Topology Discovery with Traffic Engineering Applications, Pankaj
        Jha, Cypress**

 - Presented a need for traffic engineering consideration for the RPR
   topology discovery mechanism, including node traffic engineering
   requirements and user overrides.

4:15pm: **RPR Topology Discovery Proposal, John Lemon, Lantern
        Communications**

 - Presented a description of topology discovery protocol proposal.

Q: Why do you say that the topology discovery should not be tightly
   integrated with the steering protection scheme?
A: It is partly due to different time scales.

Comment: A more detailed description of the proposal will be posted
   before the next meeting.

4:40pm: **RPR MAC Address-Station ID Binding and Fairness Algorithm,
        Nirmal Saxena, Chip Engines**

 - Presented a proposal for the adoption of station ID for fast address
   lookup and finer granularity bandwidth allocation.

5:00pm: **Ad Hoc work continues (Terms and Definitions/T1X1.5), Bob
        Sultan/Mike Takefman**

- The official response letter to T1X1.5 will be presented for 802.17
  approval at the September Interim meeting.

5:00pm: RPRWG adjourns for the day

July 11, Wednesday

8:00am: Seating, Everyone
8:05am: Agenda Scrub, Mike Takefman
       - Agenda approved without objection

8:10am: **Presentation – Mapping Types of Service to RPR Priorities, Gal**

Mor, Corrigent

- Suggested ways to speed up the 802.17 standard effort. The
  suggestions included limiting the scope of bandwidth management
  protocol specification, and leaving the transit path implementation
  to the vendors.

8:35am: **Presentation –Ring Span Bandwidth Management in RPR, Pankaj Jha,
  Cypress**

- Presented rationale and RPR MAC design issues for supporting
  heterogeneous span link bandwidth.

8:55am: **Presentation – Transit Buffer Implementations for 3 Classes of
  Service for RPR, Necdet Uzun, AuroraNetics**

- Discussed a need for the support of 3 priority service classes, and
  compared simulation results for the two and three transit buffer
  implementations.

9:20am: **Presentation – RPR Proposal, John Hawkins, et al.**

- Presented a joint framework proposal for RPR standard by 7 companies.

Q: Is the membership for this joint effort open to everyone?
A: Yes.
Q: What is the timeline of this joint proposal in a detailed format?
A: By November 2001.
Q: Don't you think it is a low blow to name a specific company for the
   particular criticisms?
A: It is not intended that way at all.

10:00am: Break

10:10am: **Presentation – Proposed VOQ-aware MAC, Adisak Mekkittikul,
  Lantern Communications**

- Presented a bandwidth allocation/regulation mechanism which also
  addresses HOL and weighted fairness problems.

Q: Does the rate control message operate on one ring or many?
A: It operates only on one ring, but there are many rate control
   messages so you can have N number of rings. This provides maximum
   implementation flexibility.
Q: If you accumulate credits, then you will have suboptimal link
   utilization?
A: It is a trade off between the performance and complexity.
Q: When can we have a written spec for this proposal?
A: It will be fully described in text as soon as possible.

Q: Could we achieve the same results with the VOQ outside MAC?
A: Physically it is outside, but logically it is inside the MAC
A: We should leave the queueing structure outside the MAC, so that

various implementations are possible.

10:55am: **Presentation – Providing Enhanced Fairness, Necdet Uzun, AuroraNetics**

 - Presented a weighted fairness mechanism to cope with bandwidth reuse performance arising under certain heterogeneous traffic load scenarios.

Q: Can we use a single queue with special queueing to solve HOL?
A: You can use VOQ if you want, but you should not force everyone to do it.
Q: If the MAC doesn't provide the ability to signal, will we be stuck with a limited ability to control traffic?
A: Our MAC can provide you the information to schedule your traffic as you like.
Q: You say you are proposing a MAC implementation that supports VOQ.
A: No, I will not send N information to every node, but I will send you the choke point on the network and you can use the information to schedule the traffic.
Q: Do you need upper layer mechanism to control traffic?
A: Only weights handle this. If your traffic pattern changes dynamically you must reallocate the weights.
Q: Are you using a signaling protocol?
A: Yes, but this is out of the MAC. I cannot comment on a specific implementation without knowing the problem.
Q: This solution adapts at a relatively slow rate . At some point the upper layer protocol adapts very slowly to the feedback. Don't we need a faster feedback mechanism?
A: We never heard how any other proposal assigned weights. We can assign weights too.

11:15am: **Presentation – Extending SRP Based on 802.17 Feedback, Steve Wood, Cisco**

 - Discussed various areas for enhancement of Cisco SRP for TTM 802.17 Standard.

Q: IEEE 802 runs on parliamentary procedure, so companies are not the issue, technologies are. What we saw this morning was a group of companies agreeing to compromise using all the brains in the room including Cisco to solve the real problem rather than pushing one or the other proposal.
A: The MOU done today needs to be a real proposal. Cisco has been doing that. All we are saying is the we have some implementations and we need to discuss them.
Q: My question is sugar coating a poison pill. Steering and Wrapping on the same ring implies all vendors must institute steering and wrapping.
A: We feel the wrapping nodes may have to do more work but we are developing a proposal.
Q: VOQ needs support from the network, but it doesn't have to be supported in any particular implementation.
A: We are in agreement

Q: Do we have an SRP proposal available?
A: Can we put an RFC on the web site as a starting point? The
   extensions are not available because they are new.

Q: Do you support a modified Ethernet frame for the RPR frame?
A: We feel that the RPR should be a header, but not inserted inside the
   Ethernet frame.
Q: Is HOL blocking a problem, and how can the system get at the packet
   to solve HOL?
A: It hasn't been a problem in our networks. VOQ doesn't need to get to
   the MAC buffer to resolve HOL. It can go to a table and make the
   decision how to forward.
Q: If there is a TDM packet, you don't want to discard packets because
   there is an error in the payload.
A: We say you should deliver the packet but want to know there was an
   error.
Q: With HOL blocking and there are 2 or more choke points is there a way
   to deal with this?
A: Does the source address exist in the message? Today SRP only has
   nodes that are congested give these messages. The question is how
   complex is the solution to get to 100% utilization.
Q: If there is an error in the header, you don't want to deliver those
   packets.
A: We don't want to deliver packets to the wrong address, if there is a
   header error.
Q: Regarding your Transparent Bridging proposal, does it imply wire
   speed learning?
A: Isn't this a requirement of all learning bridges? You could use the
   TTL to filter this, but it would be underpowered.

12:00am: Lunch Break

1:00pm: **Presentation – Ring Size Survey, Harry Peng et al.**

 – Presented customer survey results on the deployed number of rings and
   nodes, and sizes, and recommended the upper bounds of 256 nodes and
   6000Km circumference for the optimization goal.

Q: Is 6000Km circumference covering the WAN part of our mandate?
A: PAR states that 802.17 works on LAN/MAN/WAN.
Comment: It is believed that bandwidth needs be accounted for as well,
   regarding the optimization goal.

1:25pm: **Presentation – 1500 Bytes is not a Virtue, Denton Gentry,
         Dominet Systems**

 - Discussed benefits and drawbacks of large frame sizes.

Q: Having 9KB MTU is unnecessary burden for the MAC, only to support 1%
   of typical applications? All the MTU discovery mechanisms mentioned
   here are the higher layer functions.

1:50pm: **Presentation – The Importance of Link Aggregation to RPR, Bruce Johnson, Excite@Home**

 - Presented a customer need for link aggregation feature of RPR.

2:15pm: **Presentation – RPR & OAM, Ashwin Moranganti, Appian**

 - Discussed why RPR needs to have OAM functionalities, and proposed to use CRC for error detection mechanism and to adopt frame-based approach.

Q: Do you think we need OAM per destination node, as in ATM OAM per VC?
A: Yes.
Q: Why 802.17 standard group has to do this OAM?
Comment: It would be important to deliver consistent OAM mechanisms across different 802 groups to the service provider customers.

2:40pm: Break

2:50pm: **Presentation – Plug and Play Operation, Jim Kao, AuroraNetics**

 - Presented ring ID discovery mechanisms for RPR plug and play operation.

Q: Ring ID does not seem necessary, especially with added requirement for the ring ID assignment mechanisms.
Q: What is the functionality achieved by the Ring ID?
A: It is to identify the wrapping condition.

3:30pm: **Presentation - Performance Study of Nortel OPE-RPR (II), Changcheng Huang, Carleton University**

 - Presented simulation study results of Nortel's RPR implementation.

Q: Slides show two different packet size numbers, which one is correct?
A: Trimodal with average size of 444.4 Bytes.
Q: What is the ring size used in the simulation?
A: Ring span of 20Km with 16 nodes, i.e., 320Km circumference.
Q: How do you measure HOL delay?
A: From the time when the packet is advanced to the head of the input queue.
Comment: For the user end-to-end delay measurement, the ingress queueing delay should also be included.
Q: All the delay results are shown for Node 1 which is closest to the hub server?

A: Yes.

3:50pm: RPRWG adjourns for the day, while the performance Ad Hoc
        continues until the IEEE 802 social reception at 6:30pm.

July 12, Thursday

8:00am: Seating, Everyone
8:05am: Agenda Scrub, Mike Takefman
      - Agenda approved without objection.

8:10am: **Presentation – Proposed Outline for the Standard, Jim
        Mollenauer, Technical Strategy Associates**

 - Presented a proposed outline for 802.17 RPR Standard.

Comment: Let us put the draft proposals on the web, based on the
   proposed outline of the Standard.
Comment: There is a space on the current 802.17 web for the drafts, and
   it could be used for that purpose.
Comment: The draft proposals should be required to be made available at
   least a week prior to the meetings.

9:10am: Agenda Re-scrub, Mike Takefman

Motion: 2001-07-12-01 (9:12am)

Motion to modify the agenda for today's meeting.

 (M) Bob Love
 (S) Mannix O'connor

Approved without objection.

Motion: Bob wanted to have discussions on Balloting of Terms and
Definitions, EFM response, EFM Press Release, before the review of
voters and voting rules.

9:20am: **Discussion on Balloting of Terms and Definitions, Bob Love**

- Bob described IEEE procedures for balloting on standards, and in
  particular, the Terms and Definitions proposal.

Comment: Tag for each item will make database handling manageable.

Motion: 2001-07-12-02 (9:32am)

Motion for the Terms and Definitions Ad Hoc Committee to submit their
current work for 30 day electronic ballot in the format for insertion
into the draft.

  (M) Bob Sultan
  (S) David James

Approved by acclamation.

Comment: There is IEEE LMSC rule regarding the obligation of the voting
   members for the voting, e.g., no vote casting for 2-3 consecutive
   balloting may lose his/her voting rights. Any single comment is
   seriously reviewed.
Q: Is there a specific rule regarding the minimum response rate?
A: IEEE 802 has one.

9:45am: **Discussion on EFM Response, Bob Love**

 - Bob presented a response letter from EFM Study group on the issues of
  EFM distinct identity question raised by 802.17.

   (Note: The response letter is posted on the 802.17 web.)

9:54am: Straw Poll on SLA Need, Krishna Pattabhiraman

 - Krishna wanted to take a straw poll on whether RPR needs to embrace
  the SLA services. The straw poll showed no objections on the need to
  provide SLA services. More discussion on the issue followed.

Q: Are you talking about SLA for RPR network or RPR MAC?
A: RPR MAC has effects on network level SLAs.

Comment: There could be properties of MAC which prevents SLA offering
   feasible.
Comment: The clear definition of SLA is also required.

10:10am: Break

10:25am: **EFM (Ethernet First Mile) Press Release, Bob Love**

 - Draft EFM Press release for its expected approval by IEEE is reviewed
  for 802.17 comments and discussions.

10:37am: John Hawkins announced the userID and password for the members
    only section of the RPRWG web.

10:39am: **Performance Ad Hoc Committee Update, Khaled Amer**

 - Khaled presented an update on the performance Ad Hoc committee work,
   including the activities during this week.

10:50am: **Review of Voters and Voting Rules, Mike Takefman**

10:55am: **Planning the September Interim Meeting, Mike Takefman**

       - Sept 10-13, Santa Clara Marriott
       - Meeting begins at 9:00am, Monday, until noon Thursday

10:30am: **More Discussions on the September Meeting, Bob Love**

 - Mike Takefman put a proposed outline of work areas for the standard.
   Discussions followed and the list has been refined.

 - The final list for the temporary Ad Hoc group to review during lunch
   time is as follows (on the next page). It is also noted that this
   list is not completely exhaustive.

- Proposed outline for 802.17 Standard:

       1. Resiliency
             - protection hierarchy
             - wrapping/steering/coexistence
             - achieving 50ms
       2. Frame Formats
       3. Topology Discovery Mechanisms
       4. SONET PHYs
       5. Ethernet PHYs
       6. Fairness/BW management
             - Transit path design
       7. OAM&P
       8. MAC Reference/Service Model
       9. Aggregation
       10. MIB variables Layer Management
       11. Bridging
       12. System Topology (Especially Heterogeneous Link Speeds)

 - Bob requested that the detailed document proposals be submitted from
   the September meeting on, instead of slide wares.

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Motion: 2001-07-12-03 (11:25am)

Motion to require presentations be posted to the web one week prior to
each Interim or Plenary meetings, and a notice sent to the reflector.

        Procedural (>= 50%)

        (M) Dan Romascanu
        (S) Spencer Dawkins

Withdrawn after a few modifications following discussions.
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- Bob and some others spoke against the motion emphasizing that
presentations need to be changed based on the last minute collaboration
and agreements which is essential in speeding up the standard process.

12:05am: Lunch Break

1:15pm: **Discussion on the September Meeting Continues...**

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Motion: 2001-07-12-04 (1:15pm)

Moved that because the purpose of September meeting is to review
proposed draft sections of the standard, preference be given to
presentations in support of text including state diagrams for the draft
or text explaining simulations.

        Procedural (>=50%)

        (M) Bob Love
        (S) David James

        (Y) 16      (N) 24      (A) 10

Motion failed.
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Motion: 2001-07-12-05 (1:59pm)

The 802.17 working group adopts an operating rule as follows: that
properly formatted presentation documents in their final form shall be
submitted electronically to the chair (or his designee) prior to actual
delivery of said presentation to the working group.

        Procedural (>50%)

        (M) John Hawkins
        (S) Mike Takefman

Carried Unanimously.
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2:00pm: **Voting on the Objective Motions, Bob Love**

- Remaining motions from the May Interim meeting were voted.

Motion: 2001-05-17-02 (2:03pm)

Motion that the IEEE 802.17 MAC interactions between stations shall be defined but not the behaviour and structure within stations.

Technical (>=75%)

(M) Harmen Van As
(S) None

Motion failed, since there is no seconder.

Motion: 2001-05-17-03 (2:05pm)

Motion that the IEEE 802.17 MAC shall have a topology discovery mechanism.

Technical (>=75%)

(M) Harmen Van As
(S) Wolfram Lemppenau

Motion withdrawn.

Motion: 2001-05-17-04 (2:07pm)

Motion that the IEEE 802.17 MAC topology discovery mechanism shall allow a station to negotiate with the adjacent stations on the parameters necessary for interoperability.

Technical (>=75%)

(M) Harmen Van As
(S) Wolfram Lemppenau

Motion withdrawn.

Motion: 2001-05-17-08 (2:10pm)

The 802.17 Standard shall support rings of at least 63 stations with an objective to support up to 255 stations
Technical (>=75%)

(M) Harry Peng
(S) Nader Vijeh

Passed unanimously.

```
Motion: 2001-05-17-10 (2:12pm)

The 802.17 standard shall specify minimum and maximum frame sizes that
will enable transparent bridging with 802.3.
        Technical (>=75%)

(M) Bob Sultan
(S) John Lemon


Motion Withdrawn.
```

```
Motion: 2001-05-17-10.5 (2:15pm)

The 802.17 shall define an optional mechanism for customer traffic
separation.
        Technical (>=75%)

(M) Nader Vijeh
(S) Harry Peng


(Y)    (N)    (A)

Carried by acclamation.
```

- The rest of the remaining May motions are withdrawn by the original
  mover, Bob Sultan. The list of withdrawn motions are as follows:

        . Motion: 2001-05-17-11 to 2001-05-17-27
2:35pm: Break for cookies

2:50pm: **More Planning for the September Interim Meeting, Bob Love**

```
Motion: 2001-07-12-06 (2:52pm)

Moved that the September 802.17 meeting shall be an interim meeting
regardless of the number of members present.  No motions, and only straw
polls will be taken.
        Procedural (>=50%)

        (M) Bob Love
        (S) Spencer Dawkins

(Y) 38      (N) 12      (A) 9

Motion Carried.
```

- Mike mentioned that the EFM OAM group would like to give
   presentations for possible collaboration in September Interim.

3:05pm: **Voting on Objective Motions Continues...**

```
Motion: 2001-07-12-07 (3:05pm)

The 802.17 will not preclude logical aggregation of multiple physical
links between nodes.

        Technical (>=75%)

(M) Bruce B. Johnson
(S) Raj Sharma

(Y) 36        (N) 6        (A) 13

Motion Carried.
```

Comment on Motion 2001-07-12-07:

 - The motion is to put a sub-layer to sit on the MAC to do link
   aggregation.
 - Considering the amount of work involved in 802.17, such additional
   motion is not considered helpful.
 - There exist similar implementation already, and may not necessarily
   add more work for 802.17.

3:30pm: **Update from the Outline Editing Ad Hoc group, Jim Mollenaur**

 - Editing will be done using MS Word for wider accessibility for draft
   sections. Diagrams and graphs will be done using native Word tool,
   or Visio.

Q: Is any standard format for the diagrams available, such as arrow
   sizes and line thickness?
A: No.

 - The draft outline for the 802.17 Standard will be posted on the web.

```
Motion: 2001-07-12-08 (3:50pm)

The outline created by Jim Mollenaur et al. to be used as a guidance in
preparing our text for the submission and discussion in the September
Interim meeting.

        Procedural (>=50%)

 (M) Jim Mollenaur et al.
 (S) Bob Sultan

Motion Carried Unanimously.
```

3:50pm: Friday meeting is cancelled
3:50pm: **End of July Plenary meeting.**

Appendix: Attendance List (Total: 149)

#	(Attendees)	
1	Sanjay K.	Agrawal
2	Khaled	Amer
3	Paul	Amsden
4	Siamack	Ayandeh
5	Gunes	Aybay
6	Bob	Barrett
7	Constantinos	Bassias
8	Wang	Bin
9	KD	Bindra
10	Tom	Black
11	Mark	Bordogna
12	Richard	Brand
13	Martin	Brewer
14	Rhett	Brikovskis
15	Andrew	Brown
16	Leon	Bruckman
17	Italo	Busi
18	Nitzan	Cafif
19	Robert	Castellano
20	James	Chan
21	Benjamin	Chen
22	Brian	Cheng
23	Zhutao	Cheng
24	David	Cheon
25	David	Closs
26	John	Collins
27	Patrick	Conlon
28	Charles	Cook
29	John	Coulter
30	Fredrik	Davik
31	Mike	Davis
32	Spencer	Dawkins
33	Surajit	Dey
34	Emil	Drottar

#	(Attendees)	
35	Lewis	Eatherton
36	Hesham	Elbakoury
37	Angela	Faber
38	Jason	Fan
39	Ron	Fang
40	Lars Henrik	Frederiksen
41	Jingsong	Fu
42	Denton	Gentry
43	Omer	Goldfisher
44	Martin	Green
45	Stephen	Haddock
46	John	Hawkins
47	Carl	Hayssen
48	P. Michael	Henderson
49	Albert	Herrera
50	Dan	Hilberman
51	Brian	Holden
52	Bob	Hott
53	Henry	Hsiaw
54	Chang	Huang
55	Wai-Chau	Hui
56	Ran	Ish-Shalom
57	Jeanne De	Jaegher
58	David	James
59	Holden	Jessup
60	Pankaj	Jha
61	Bruce B	Johnson
62	Esmail	Kalami
63	Tae-Kyu	Kang
64	Jim	Kao
65	Harsh	Kapoor
66	Barvin	Kar
67	Vasan	Karighattam
68	Michael	Kelsen
69	Yongbum	Kim
70	Hideyoki	Kamatomo
71	Peter	Lassen
72	Byoung-Joon(BJ)	Lee
73	Chuck	Lee

#	(Attendees)	
74	Hyeong-Ho	Lee
75	John	Lemon
76	Heng	Liao
77	Robert D.	Love
78	Arman	Maghborleh
79	Chris	Mangan
80	Vittorio	Mascolo
81	Tom	Mathey
82	Thomas	Meehan
83	Adisak	Mekkittikul
84	Sherri	Menefee
85	Dave	Meyer
86	David	Milliron
87	Wataru	Mizutani
88	Jim	Mollenauer
89	Gal	Mor
90	Ashwin R.	Moranganti
91	Simon	Moseley
92	Masahiko	Mukai
93	Kristian	Nelson
94	Mannix	O'Connor
95	Masato	Okuda
96	Cel	Ololo
97	Fredrick	Olsson
98	Robin	Olsson
99	Fredrik	Orava
100	Bonghyuk	Park
101	Chip	Paryzek
102	Krishna	Pattabhiraman
103	Harry	Peng
104	Allan	Pepper
105	Carl	Perntz
106	Tim	Plunkett
107	Vish	Ramamurti
108	Lars	Ramfelt
109	Komal	Rathi
110	Behrooz	Rezvani
111	Stuart	Robinson
112	Dan	Romascanu

#	(Attendees)	
113	Urf	Rotshtein
114	Luis	Rovira
115	Hossein	Sahabi
116	Ajay	Sahai
117	Taylor	Salman
118	Nirmal	Saxena
119	Lauren	Schlicht
120	Armin	Schulz
121	Raj	Sharma
122	Surender	Sharma
123	Hong (Henry) Shi	
124	Claus	Stetter
125	Bob	Sultan
126	George	Suwala
127	John	Ta
128	Michael	Takefman
129	Teik-Kheong	Tan
130	Mike	Tate
131	Frederic	Thepot
132	Necdet	Uzun
133	Harmen R.	Van As
134	Kanaiya	Vasani
135	Ramkrishna	Vepa
136	Jan	Verbeke
137	Nader	Vijeh
138	David	Wang
139	Douglas	Williamson
140	Peter	Wolff
141	Steven	Wood
142	Donghui	Xie
143	Yiming	Yao
144	Mete	Yilmaz
145	Pinar	Yilmaz
146	Chongho	Yoon
147	Yasuhiko	Yotsuyanagi
148	Su-Hum	Yun
149	Igor	Zhovnirovsky

---------------------- End of Attendance List ----------------------