IEEE 802.17
Resilient Packet Ring WG

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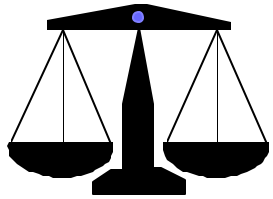
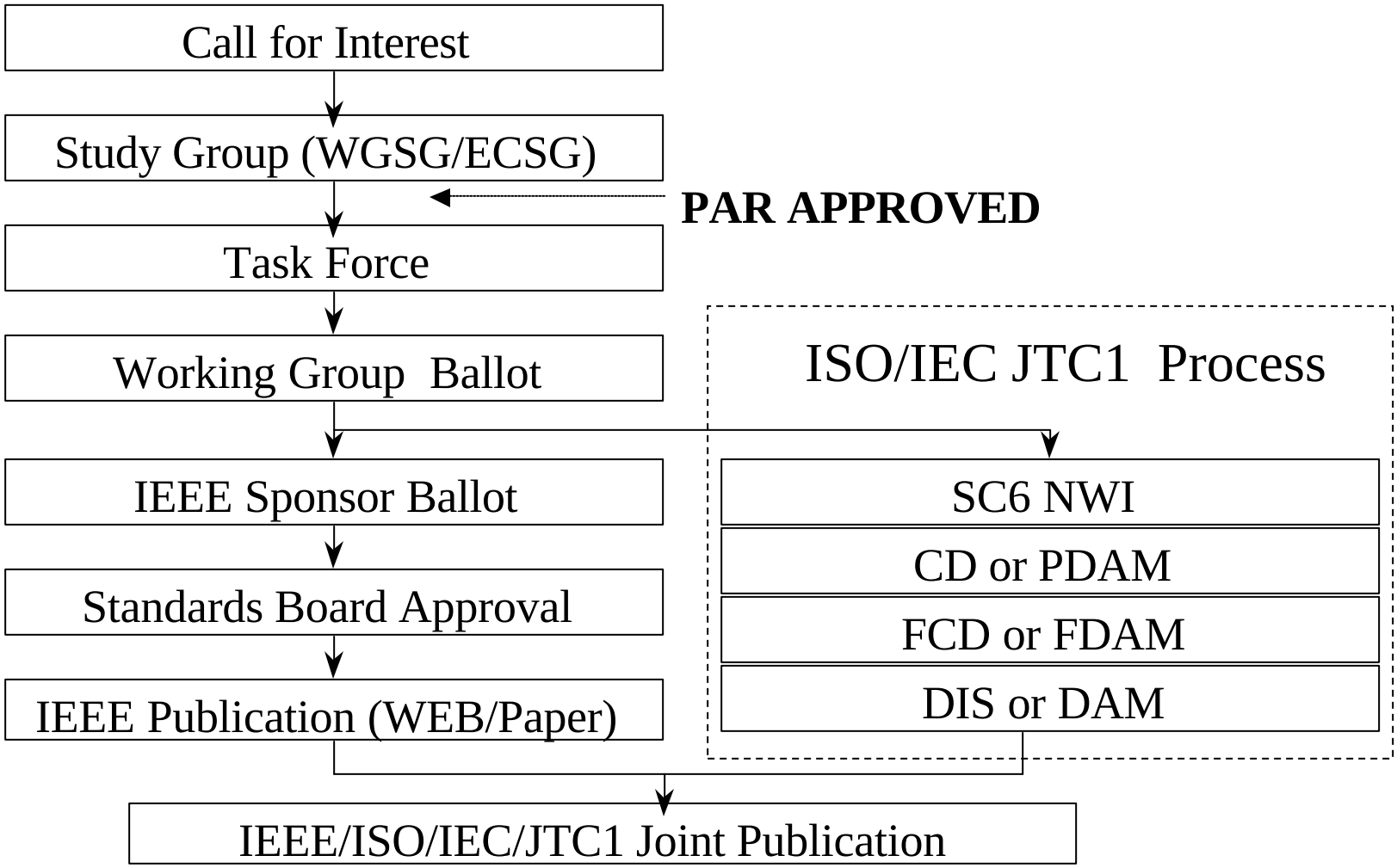
IEEE 802 Standards Principals

- Process
  - Rules and Procedures
- Consensus
  - Near unanimity
- Openness
  - Everyone has Access to Process
  - Individuals, World-wide
- Balance
  - Balloting group must include developers and users
- Right to Appeal
  - Both procedural and technical anytime during the process



IEEE 802 Standards Process



IEEE 802.17 (RPR) WG

- New 802 Project approved by IEEE Standards Board on Dec. 7, 2000 as IEEE 802.17 Resilient Packet Ring Working Group
- The Resilient Packet Ring Working Group will define a Resilient Packet Ring Access Protocol for use in Local, Metropolitan and Wide Area Networks for transfer of data packets at rates scalable to many gigabits per second.
- The project will use existing Physical Layer specifications and may develop new PHYs where appropriate.

RPRWG Membership

- Anyone can participate in the working group
  - Individuals who feel they have the technical competence to create a standard
  - IEEE membership is not required but any meeting fee must be paid
  - Voting rights acquired by attending 2 meetings (one must be a plenary) of the last 4 sessions
  - Voting rights maintained by attending 2 meetings (one must be a plenary) of the last 4 sessions

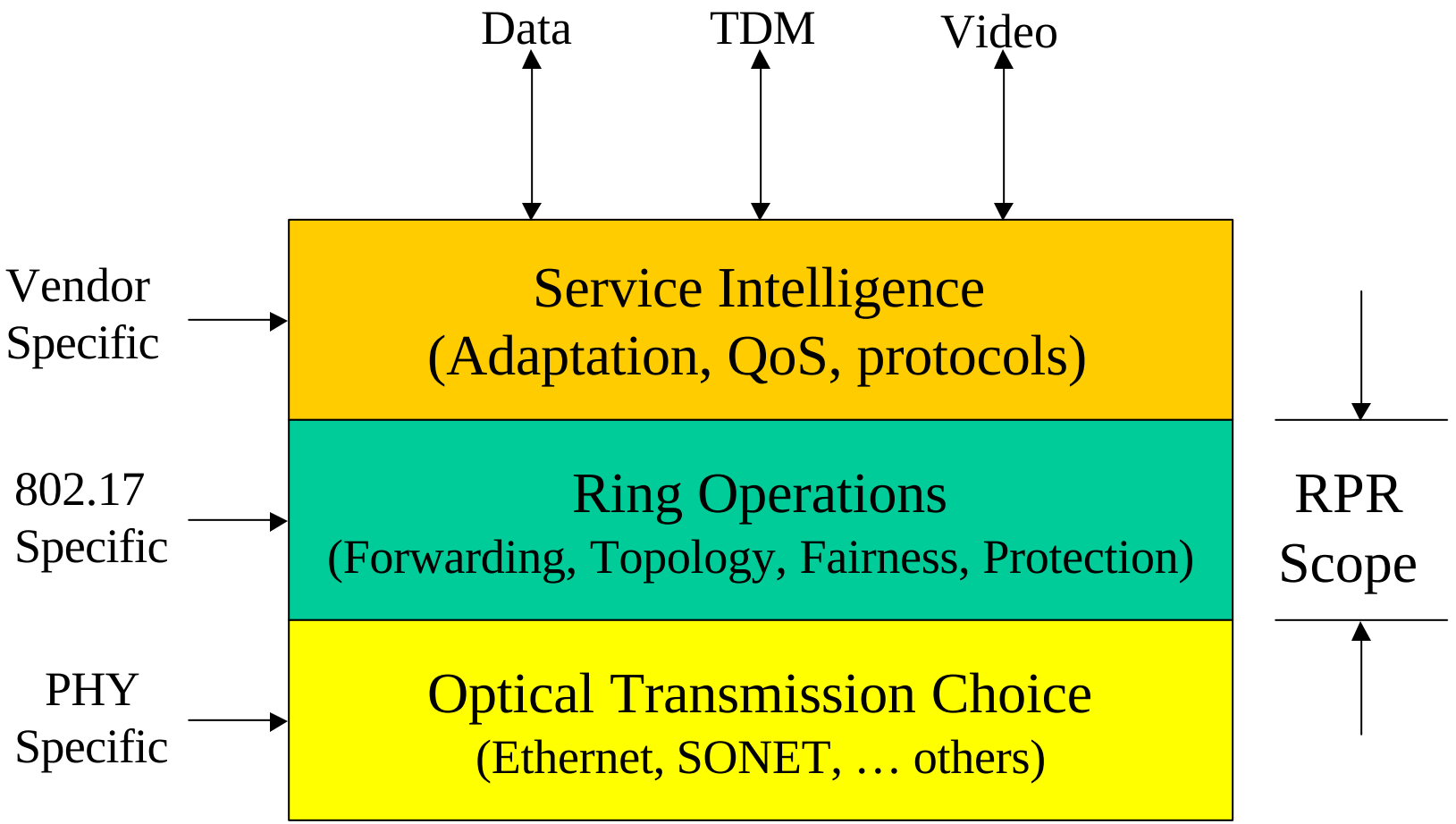
What is RPR

- A layered technology designed for metro transport
- Shared ring technology with spatial reuse
- Offers carrier class ring protection and resiliency for packet switched networks
- Dual Counter Rotating Rings
  - No reserved protection BW
  - Both rings carry traffic all of the time
- Destination Stripping of variable length uni-cast packets
  - Spatial re-use increases BW efficiency of ring

What is RPR ...

- Media Independence
  - Scalable in bit-rate, # nodes, span distance
  - OC-48c & OC-192c SONET/SDH
  - 1Gb/s & 10 Gb/s Ethernet
- Source Stripping of variable length broadcast and multi-cast packets
- Controlled dynamic BW sharing on the ring:
  - No wasted BW due to pre-allocation
- Ring protection and fast restoration (<50ms)
- Support for multiple classes of service
- Support of large MTU (9216 Bytes) is being debated

RPR Scope


Data
TDM
Video
Vendor Specific
Service Intelligence
(Adaptation, QoS, protocols)
802.17 Specific
Ring Operations
(Forwarding, Topology, Fairness, Protection)
PHY Specific
Optical Transmission Choice
(Ethernet, SONET, … others)
RPR Scope

RPR != Ethernet

- RPR is a new MAC and will not talk to an Ethernet MAC
- RPR will be capable of using Ethernet PHY
  - Minimize development time
  - Ride the volume / cost curve

Bridging vs. Routing

- IEEE 802 requires that any 802 standard implement 802.1D bridging and & 802.1Q VLANs
- Members of RPRWG expect to see both bridging and routing used in networks deploying the 802.17 standard
- A working relationship with IPoRPR will provide input to the WG to insure that requirements for routed systems will be taken into account

Framework

The working group agreed on a framework for developing candidate drafts of the standard by the fall of 2001, and have committed to creating substantial text in the next two months covering the twelve areas of:

1) Resiliency and Protection
2) RPR Frame Format
3) Topology Discovery Mechanisms
4) Physical Layer Reconciliation

Framework ...

5) Bandwidth Management

6) Operations, Administration, Maintenance, and Provisioning

7) MAC Service Reference Models

8) Aggregation

9) Service Classes

10) Bridging

11) Layer Management

12) System Topology

IEEE 802.17 WG Timeline

Upcoming RPRWG Meetings

- Interim Meeting: Sept 10 - 13, 2001
  - Doubletree Hotel - San Jose, CA
- Plenary Meeting: Nov 12 - 16, 2001
  - Hyatt Regency - Austin, TX
- Focus on contributions and no longer objectives
- Looking for people to start writing their contributions in the form of the standard so that people understand what exactly is being proposed.

Participation in IEEE 802.17

- Anyone is welcome to participate
- Web site: http://www.ieee802.org/17
- To join email reflector send mail to majordomo@ieee.org *with body* subscribe stds-802-17 <*email_address*>

Participation in IEEE 802.17

- Contact info:
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