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# Proposed Outline for the Standard

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# How Do We Start?

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- **No need to wait until all technical decisions are made**
  - **Add sections and/or parameters as agreements are reached**
- **Much can be written starting now**
  - **“Front matter” about the IEEE and the Standards Board**
  - **Introduction**
    - Scope and purpose of the standard**
    - Where it fits in the IEEE 802 world and the OSI Reference Model**
    - Broad-brush overview of how it works**
    - Layering**
      - Interfacing to higher layers: data formats, priorities**
      - MAC**
      - Physical layer convergence procedures**
        - For SDH/Sonet, Gigabit Ethernet, DWDM, etc**
      - MAC service definition (formal representation)**
      - General structure of the remainder**

# Decisions To Be Made

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- **What technical limits we need to respect**
  - Delay, jitter, etc.
- **What we need in the standard vs. left to the implementer**
- **Operational principles and when they apply**
  - Rate control, steering, etc.
- **Control messages**
- **Packet headers**

# The Straw Man Draft (D0.1)

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**Not all material in it represents consensus, just a starting point  
Start simple, add features as WG consensus emerges**

- **Front matter, scope, purpose, etc.**
- **Overview of the technology**
  - Intended to acquaint the reader with what we are standardizing
  - Principles of operation and justification for major decisions  
No details of headers, messages, etc.
  - Consistency with user needs and carriers' obligations (SLAs)
- **Layering**
  - Need to support multiple higher layers -- different applications
  - Variety of physical layers  
We don't need to invent our own  
Convergence layers to map our packets onto these layers

# Proposed Outline of the Standard

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## 1 Overview

This is the starting point. Group input is needed!

- 1.1 Scope
- 1.2 Purpose
- 1.3 Terminology
- 1.4 IEEE Architectural Conformance
  - 1.4.1 *Layer definitions*

## 2 Normative references

## 3 Definitions

## 4 Abbreviations and acronyms

# Outline, cont.

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## 5 RPR Concepts and Reference Model

5.1 Third-party Operation

5.2 Services

5.3 Network Properties

5.3.1 *Network scale*

5.3.2 *Topologies*

5.3.3 *Shared medium*

5.3.4 *Packet-based Operation*

5.3.5 *Resilience*

5.3.6 *Destination Removal*

5.4 *Bandwidth Management Features*

5.4.1 *Congestion Avoidance*

5.4.2 *Fairness Algorithm*

5.4.3 *Jitter and Delay Considerations*

5.5 *Physical Layer Independence*

# Outline, cont.

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## 6 Client Layer

- 6.1 Required properties
- 6.2 Vendor-specific features

# Outline, cont.

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## 7 MAC Layer

- 7.1 Client Services Supported
  - 7.1.1 *Guaranteed service*
  - 7.1.2 *Committed service*
  - 7.1.3 *Best-efforts service*
  - 7.1.4 *Primitives*
- 7.2 *Packet Format*
  - 7.2.1 *Generic Packet Header Format*
  - 7.2.2 *Control Packet Format*
- 7.3 *Rate Control*
  - 7.3.1 *Computing the Rate Control Factor*
  - 7.3.1 *Rate Control Message : When Sent*
  - 7.3.2 *Rate Control Message Format*



# Outline, cont.

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- 7.5 Topology Discovery
  - 7.5.1 *Algorithm Defined*
  - 7.5.2 *Message Formats*
- 7.6 Protection Switching
  - 7.6.1 *Fault Determination*
  - 7.6.1 *Protection Messages*
  - 7.6.2 *Source Steering*
- 7.7 Access Control
  - 7.7.1 *Access Rate Policing*
  - 7.7.2 *Interaction with Client Layer*
- 7.8 MAC Layer - Management Plane
  - 7.8.1 *Management Messages*

# Outline, cont.

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## 8 Physical Layer

- 8.1 Physical Layer Independence
- 8.2 Generic Requirements
- 8.3 MAC support of PHY layers
- 8.4 Physical Layer Convergence Procedures
  - 8.4.1 *SDH/SONET*
    - 8.4.1.1 *GFP*
    - 8.4.1.2 *POS*
  - 8.4.2 *Ethernet*
    - 8.4.2.1 *Gigabit*
    - 8.4.2.2 *10-gigabit*
  - 8.4.3 *DWDM*