TDMoIP Updates

PWE3 – 53rd IETF

21 March 2002

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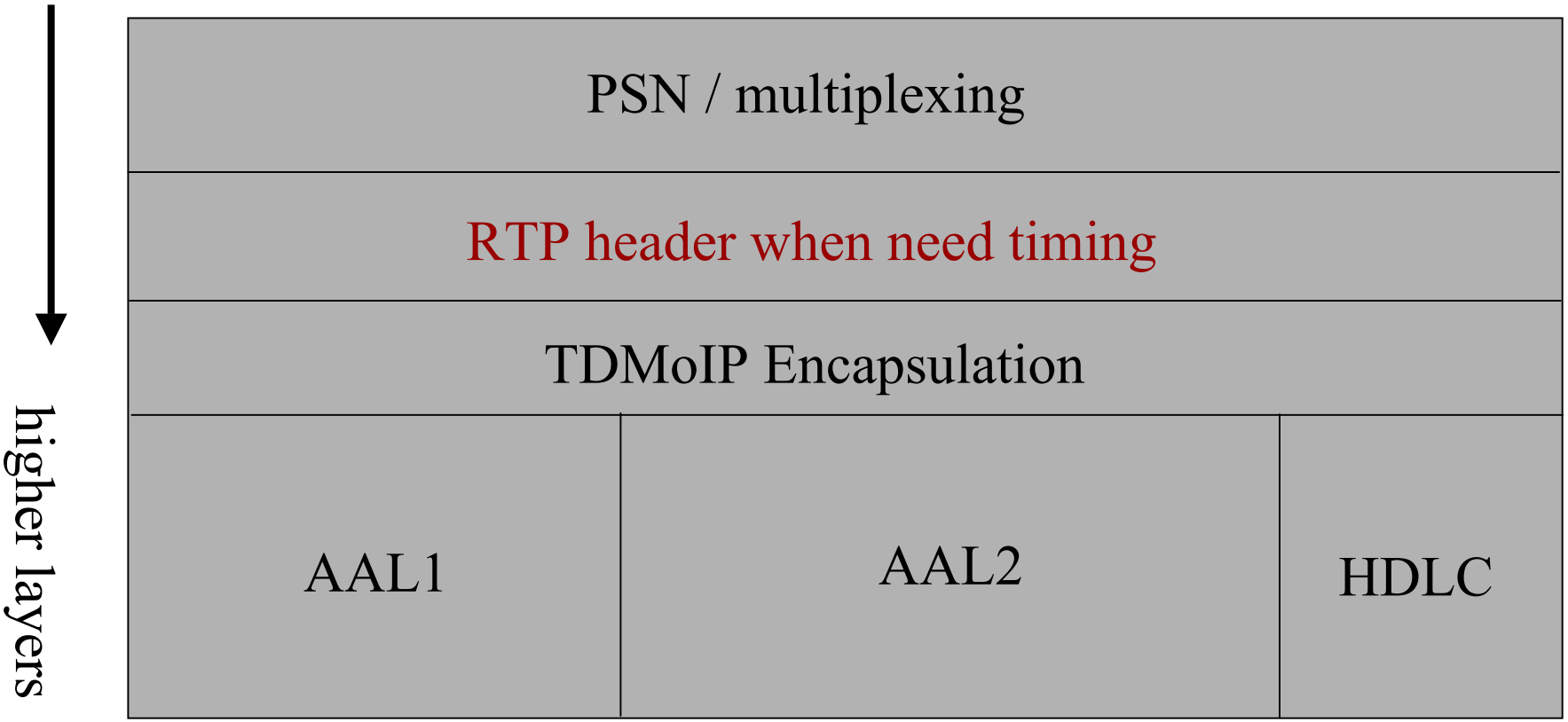
What's new in the TDMoIP draft (version 03)?

- Edited to conform with PWE concepts/terminology
  - Elimination of motivational text
  - Added applicability statement
  - Layering made explicit
  - Isolation of PSN-dependent details
- Control word format update
- Explicit treatment of MPLS / L2TPv3 / L2Eth
- New OAM/IPPM section added

TDMoIP layering structure



AAL1 used for preconfigured setup

AAL2 used for *dynamic bandwidth*

HDLC used for CCS signaling

AAL1 for structured TDM

As discussed in the previous meeting

"AAL1" is the simplest method to robustly transport structured TDM (voice, sync, signaling)

ATM community has done the debugging for us!

Any alternative will either

- **Fall apart upon packet loss** **or**
- **Be less efficient (e.g. require payload duplication)** **or**
- **Mandate high latency (e.g. multiframe per packet)** **or**
- **Require PE to understand TDM intricacies** **or**
- **Be essentially equivalent (I.e. contain a structure pointer)**

AAL2 for Dynamic BW

AAL1 is BW inefficient when timeslots are dynamic

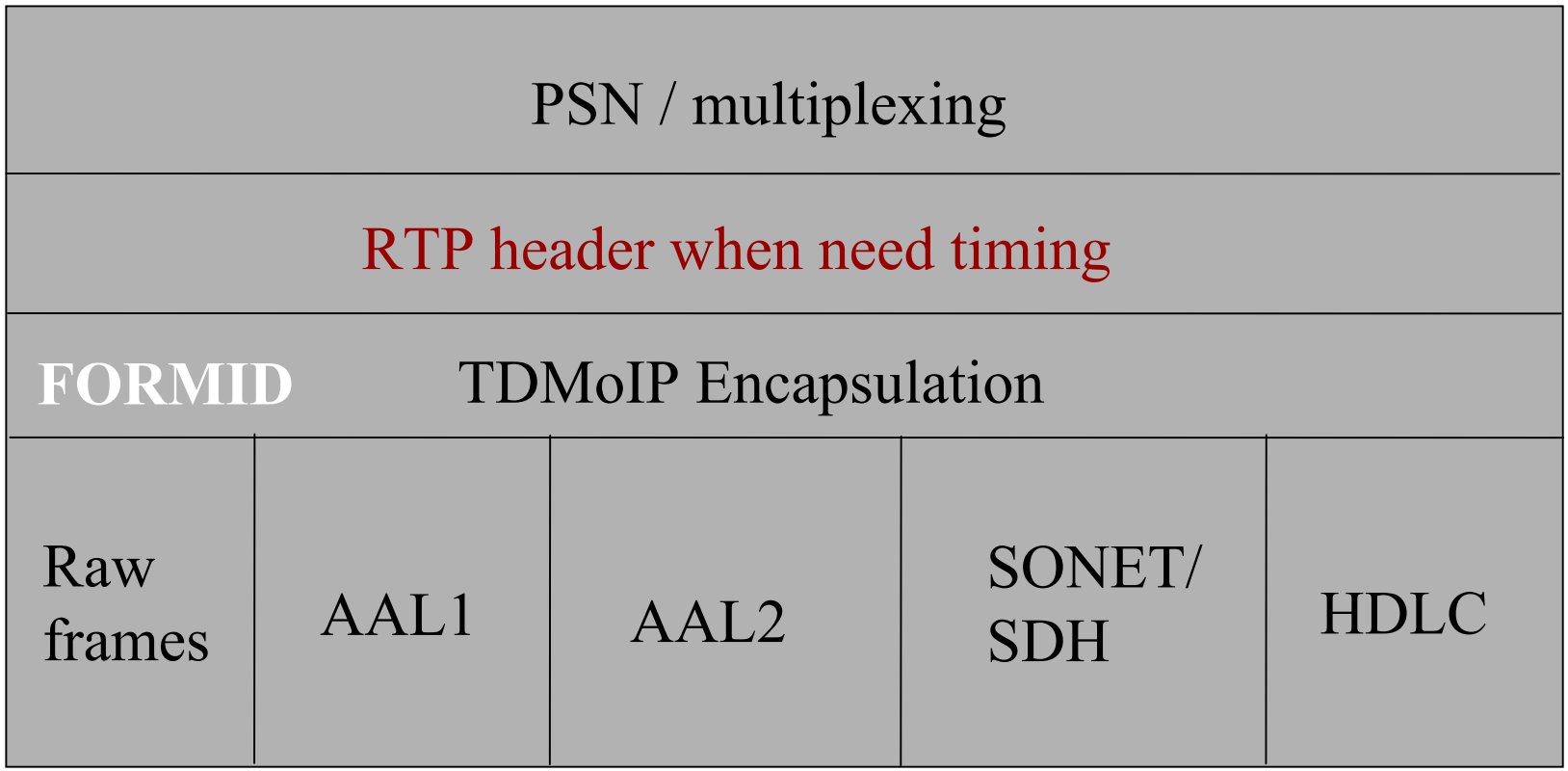
Even with GB rates we should consider efficiency considerations

"AAL2" is the simplest method to robustly transport dynamic structured TDM

Any alternative will either

- **Fall apart upon packet loss** **or**
- **Be less efficient (e.g. require renegotiation)** **or**
- **Require PE to understand TDM intricacies** **or**
- **Be essentially equivalent**

Unified Approach to TDM PW



Similar to "profiles" in some VoX protocols

The problem is the *motivation*

Raw frames	AAL1	AAL2	SONET/ SDH	HDLC

Why so many different payload formats to transport TDM ?

Division of application space

AAL1/2 for low speed, SONET/SDH for high-speed

How justify raw frames except for simple implementation

Service Interworking

Obvious when interfacing to AAL/SONET networks

but which should be used for simple TDM?

Proposed Solution

- **MUST** use *SONET/SDH* for high rate
- For low rate (E3/T3 and below) :
  - **MUST** use raw frames for unstructured
  - **MUST** use AAL1 for structured / static timeslot with CAS
  - **MUST** use AAL2 when dynamic timeslot allocation required
  - **MAY** use either raw or AAL1 for structured w/o CAS