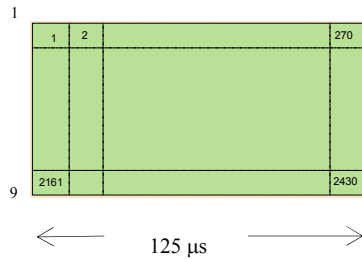
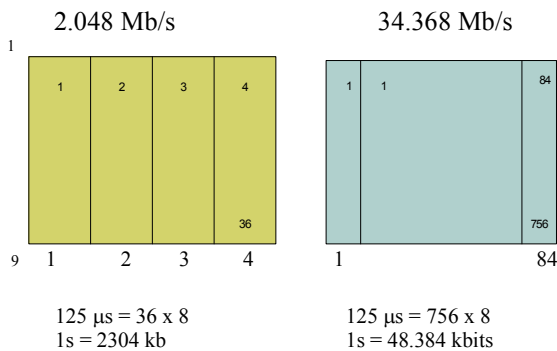


1. Basic Structure



$125 \mu s \rightarrow 2430 \times 8 \text{ Bits}$
 $1 s \rightarrow 155.52 \text{ Mbits}$

2. Structure for 2Mb/s and 34Mb/s



Spare bits for Path over head + Justification

Spare bits
 $= 0.256 \text{ (12.5\%)}$

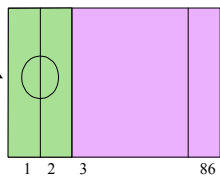
Spare bits
 $= 14.02 \text{ (40\%)}$

For 34 Mb Structure 21Nos 2.048 Mb/s can be placed.

3. Observations

- 3.1. For 34Mb/s in PDH 2.048Mb/s, 16 streams can be multiplexed.
- 3.2. In SDH 21 No can be Multiplexed WHY?
- 3.3. For PDH, CEPT 34.368 Mb/s and PDH American Equipment is 44.736Mb/s, Hence 84 columns are used for 44.736Mb/s American systems, SDH stream stems from American SONET. Hence it has been designed for American 44.736Mb/s.
- 3.4. Every basic structure has to accommodate for each PDH+ Justification Hence for 34 direct to be placed, it needs more two columns to accommodate PDH+ Justification

Hence



3.5. If we fill with 21Nos of 2.048 Mb/s, these first 2 columns are spare

4. Structure for 140Mb/s

Similarly for 140Mb/s (actual 139.264Mb/s)



For 125 μ s = 2322 x 8bits
 1s = 148.605

Spare bits for POH + Justification

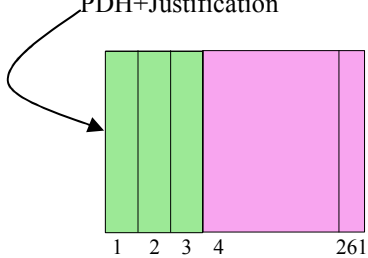
= 9.344

= (6.7%)

5. Observations

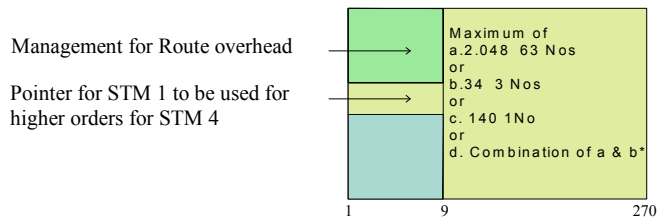
1. For 140Mb/s is PDH (CEPT) there are 4 Nos 34Mb/s streams. But in SDH only 3 Nos 34 Mb/s can be accommodated.
2. Hence in SDH, 63 Nos 2.048 Mb/s in STM 1 can be accommodated.
3. No equipment for PDH 140Mb/s (America)

6. Similar reasoning as for 3.4: in order to accommodate direct 140Mb/s into SDH 3 columns are used for PDH+Justification



7. If we fill with 3 of 34Mb/s, these first 3 columns are spare

8. Accommodation of bit rates for SDH



* If,

1No 34 Mb/s then maximum of 42 No of 2 Mb/s

or

2Nos 34 Mb/s then maximum of 21 No of 2 Mb/s