

TD NEN Cache exo2:

+ . cache de 256 octets avec des blocs de 16 octets.

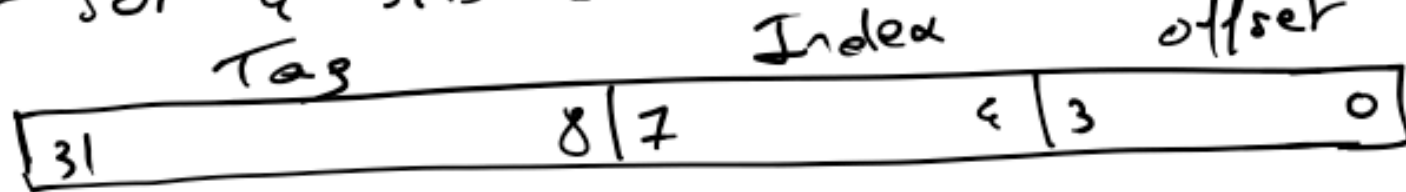
Nem Cache à correspondance directe.

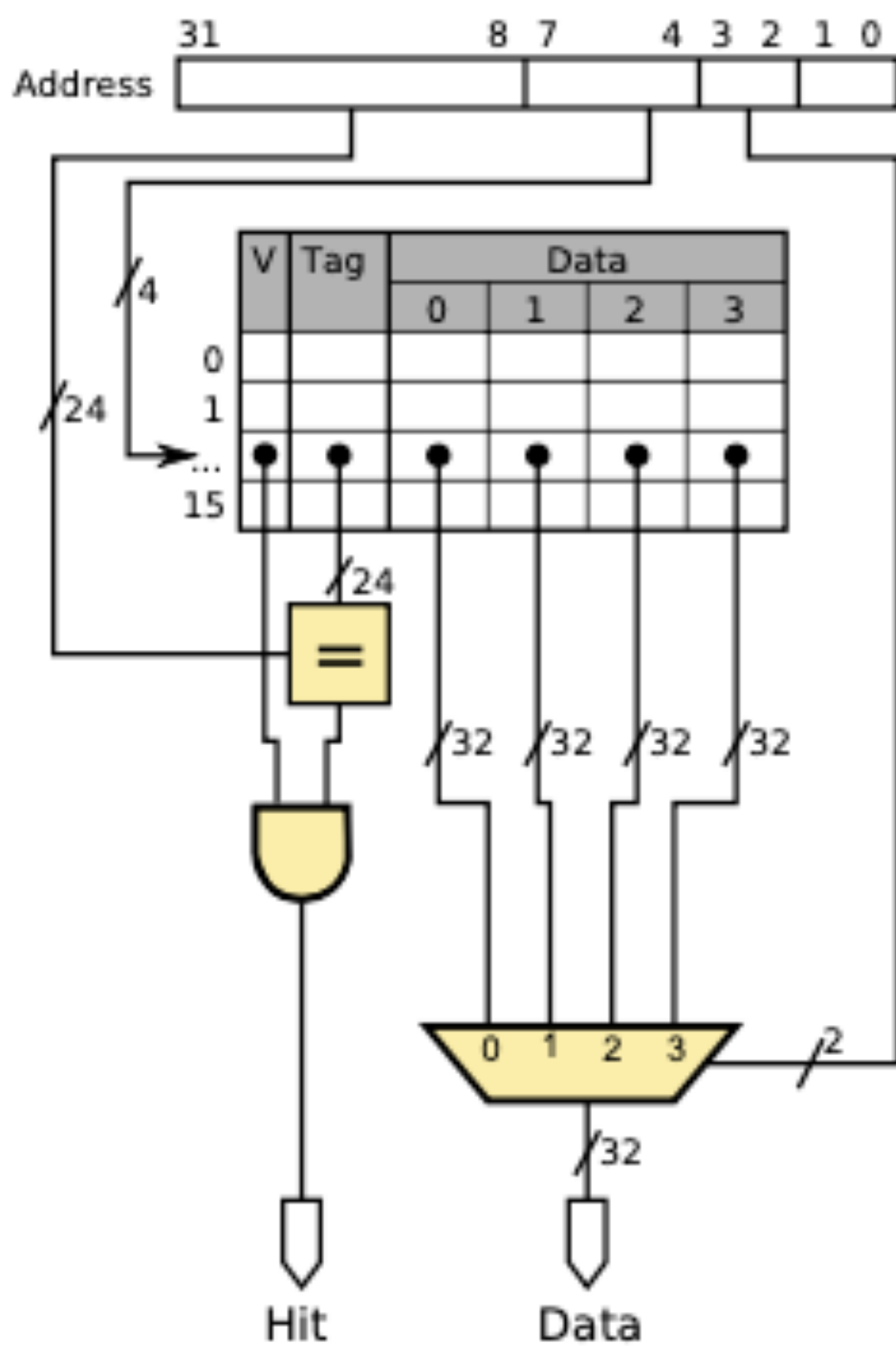
→ Combien de blocs en Nem. Cache?

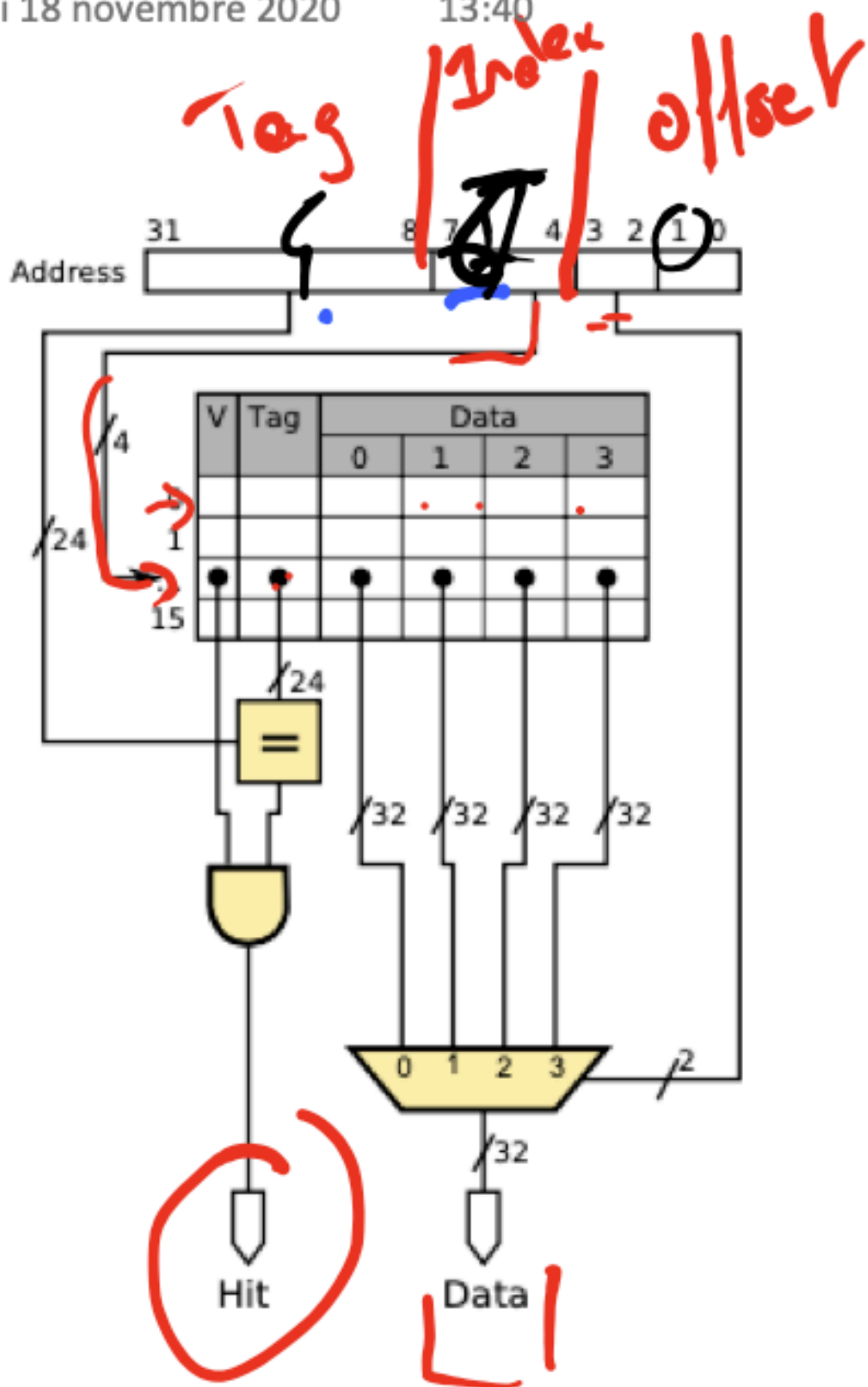
$$256/16 = 2^8/2^4 = 2^4 \text{ blocs.}$$

⇒ index codé sur 4 bits

⇒ offset sur 4 bits car 16 bytes par bloc







Air

Question 4:
A(00) 4 0 0

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				TAC	
CO2	CO1	CO0		15	
533	522	531	530	8	9
532	522	521	520	7	4
513	512	511	510	6	4
503	502	501	500	5	9
				4	9
				1	
				0	

$A(0,3)$ $A(0,2)$ $A(0,1)$ $A(0,0)$

4 400 A

Hand-drawn diagram of a memory stack with segments A, B, and C.

Segment C (top):

- Address 480: Value 1

Segment B (middle):

Address	Value
B10	450
B03	44C
B02	498
B01	44C
B00	

Segment A (bottom):

- Address 0: Value A

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-> for (i = 0; i < 4; i++) i=0
{
  for (j = 0; j < 4; j++) j=0
  {
    acc = 0;
    for (k = 0; k < 4; k++) i=j=0
    {
      acc = acc + A[i][k] * B[k][j];
    }
    C[i][j] = acc;
  }
}

```

- $A[0,0] \times B[0,0]$
 - $A[0,1] \times B[1,0]$
 - $A[0,2] \times B[2,0]$
 - $A[0,3] \times B[3,0]$
 - $C[0,0]$

$i=0, j=1$
 $A[0,0]$ $B[0,1]$
 $A[0,1]$ $B[1,1]$
 $A[0,2]$ $B[2,1]$
 $A[0,3]$ $B[3,1]$
 $C[0,1]$

Access	H/n	Access	H/n
$A[0,0]$	n..	$B[0,0]$	n.
$A[0,1]$	s	$B[1,0]$	n
$A[0,2]$	s	$B[2,0]$	n
$A[0,3]$	s	$B[3,0]$	n.
$C[0,0]$	n.		

9 succès.