Solution 5:

2's and 5's pair off to produce multiples of 10 and since there are more 2's than 5's in the prime factorisation of 2013! we need to find the number of 5's in this factorisation.

2013/5	402 numbers are multiples of 5
2013/25	80 numbers are multiples of 5^2
2013/125	16 numbers are multiples of 5^3
2013/625	3 numbers are multiples of 5^4

$402+80+16+3 = 501$