Approximate percentage of the memory's total operating time for refreshes while refreshing DRAM

A DRAM that must be given a refresh cycle 64 times per ms.Each refresh requires 150ns,a memory cycle requires 250 ns. What is the approximate percentage of the memory's total operating time must be given to refreshes?

Can someone explain how to find the solution?

computer-architecture

asked Sep 12 '13 at 18:39

vijay
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2 What do you think? Do you understand the terms? Is there anything in particular which is not clear? Don't expect us to solve your assignment for you. It won't help you understand the subject. – Yuval Filmus Sep 12 '13 at 18:53

I tried but didnt get – vijay Sep 13 '13 at 15:27

1 Answer

I don't quite understand the different between "refresh" and "memory cycle" (whatever that means), but here is the sort of calculation you have to do. There is a refresh cycle 64 times every millisecond (so every $(1/64)\text{ms}$), which apparently takes 150ns. So refreshes take $150\text{ns}/(1/64)\text{ms}$ of the time, which is $(150 \times 64)/10^6 = 0.0096$ [since $1\text{ms} = 10^6\text{ns}$], or about one percent [multiplying by 100].

You can also consult Wikipedia here.

answered Sep 13 '13 at 17:33

Yuval Filmus
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