

RAM-CPU Singularity

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One of my computers is very old (PIII 667 MHz, 128 MB RAM, bought in summer 2000) and runs Windows XP SP2. While I'm going to buy some more RAM tomorrow, I have this idea of RAM-CPU singularity:

That is to say, software applications should sometimes treat the RAM and CPU resources as one single computing resource, using an idle resource to compensate the urgent needs of another kind of resource.

Based on space-time tradeoff principles in algorithm design theory, we can redesign object libraries like STL to be able to adapt to any extremely unbalanced space-time requirements (e.g. a very fast CPU but very limited RAM, or a very slow CPU but very rich RAM) and able to re-adapt to a new requirement on-the-fly. Application frameworks like MFC, VCL or GTK should also be redesigned to serve this purpose. But the details of resource management should be transparent to the end developer.

There are already successful (maybe) examples of transparent tradeoffs between different kinds of computing resources, such as virtual memory.

Regards,
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