

## Re: Forcing a thread to use a specific processor?

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*Source:* <http://www.tech-archive.net/Archive/VC/microsoft.public.vc.mfc/2007-07/msg00786.html>

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- *From:* Joseph M. Newcomer <[newcomer@xxxxxxxxxxxxx](mailto:newcomer@xxxxxxxxxxxxx)>
  - *Date:* Wed, 11 Jul 2007 00:29:36 -0400
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No. You can only say that your threads can only run on a set of processors; within that allowable set, the scheduler is free to run any thread on any processor, and that thread will compete with other threads for the CPU cycles. In particular, kernel threads will almost always preempt your threads when they have to run. You can't prohibit other threads from running (although you CAN boost the priority of your thread to make it less likely that some other thread will run, but the Balance Set Manager is going to occasionally boost some random thread to priority 15 and it will then compete with your threads.

joe

On Tue, 10 Jul 2007 21:14:27 -0500, "Peter Olcott" <[NoSpam@xxxxxxxxxxxxx](mailto:NoSpam@xxxxxxxxxxxxx)> wrote:

"Joseph M. Newcomer" <[newcomer@xxxxxxxxxxxxx](mailto:newcomer@xxxxxxxxxxxxx)> wrote in message [news:dp1793htedjrlmjqt2tlecgnrodouipcg@xxxxxxxxxxxxx](mailto:news:dp1793htedjrlmjqt2tlecgnrodouipcg@xxxxxxxxxxxxx)

SetThreadAffinityMask. You can check this out with my Thread Affinity Explorer that you can download from my MVP Tips site.

Generally, binding a thread to a particular processor will overall result in poorer performance than if you just let the scheduler choose the processor, because it means that it will be forced to wait if that processor is busy, even if other processors are idle.

One technique that is used to improve user responsiveness (as opposed to program performance or system performance) is to allow the main GUI thread to run on any processor, but the worker threads to run on any processor but processor 0 (the low-order bit of the mask), and then boost the priority of the worker threads. This will cause the scheduler to favor your threads, but not make the GUI sluggish, because the GUI (and other normal threads) will compete for CPU0 while the worker

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threads consume CPU1..n.  
joe

That sounds like good advice. Is there any way that I can dedicate one processor to the exclusive use of one or more of my threads?

On Mon, 9 Jul 2007 22:18:59 -0500, "Peter Olcott"  
<NoSpam@xxxxxxxxxxxxxxx> wrote:

Now that we have dual core and quad core processors is there an easy way to force a thread to use a particular one of these core processors in Windows XP or Vista?

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