

## Re: Pthread\_create and memory issues.

**Source:** <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/hackers/2004-05/0194.html>

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**From:** Alex Keahan (*alex\_at\_hightemplar.com*)

**Date:** 05/22/04

To: "Cole" <cole@opteqint.net>, <freebsd-hackers@freebsd.org>

Date: Sun, 23 May 2004 00:20:09 +0300

On Saturday 22 May 2004 10:39 pm, Cole wrote:

> *Hi*

>

> *Ok this is just a more direct question that the thread Memory Leak.*

>

> *I have a program using pthread\_create, and it runs fine, no compile errors  
> or warnings, it all works fine, not a single issue, but it very very slowly  
> uses up memory. The program creates a fixed number of threads, and after  
> each one has run to completion it stores them for a while for use again if  
> needed soon, else it destroys them after a specified amount of time.*

Cole,

Are you certain it's not a bug in your code?

A thread's resources are not immediately released at termination, unless the thread was created with the detachstate attribute set to PTHREAD\_CREATE\_DETACHED, or if pthread\_detach has been called for its pthread\_t.

An undetached thread remains in the terminated state until its identifier is passed to pthread\_join or pthread\_detach.

At a minimum, a terminated thread retains its pthread\_t identifier and the return value that was returned from the thread's run function (or the value specified in a call to pthread\_exit).

To sum it up, you have three options:

- 1) create your threads detached (PTHREAD\_CREATE\_DETACHED attribute),
- 2) detach them after creation (pthread\_detach), or
- 3) join with the terminated threads to recycle them (pthread\_join).

Alex Keahan

>

> *Now i have tried to use ElectricFence to try track down the program, and it*

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> *created cores all pointing round about to pthread\_create. So then i tried*  
> *to use mpatrol, and it either doesnt even crash, or cause errors, or it*  
> *creates a core file that is so large with so many instructions, that is*  
> *well over 1000 instruction calls, but as far as i can see they both seem to*  
> *be pointing to pthread\_create. With mpatrol i set*  
> *MPATROL\_OPTIONS=LEAKTABLE, but it never produces any output and crashes*  
> *before i can even test the program. It also uses up close to 100% of the*  
> *cpu before crashing.*  
>  
> *I was just wondering if anyone else has had any other memory debugging*  
> *program suggestions, or has had any issues with pthread\_create.*  
>  
> *If you want i can post the code or at the very least my pthread\_create*  
> *call.*  
>  
> *Thanks*  
> */Cole*

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