Subject: New allocator...
Posted by mirek on Tue, 27 May 2008 17:46:40 GMT

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After encountering the shortcomings of memory allocator in heavily multithreaded apps, I have implemented a new one (already 5th .

There are two advantages:

- allocator is non-locking for in-thread allocations, only remote-free locks

- false sharing - cacheline contention - is no more a problem.

Moreover, surprisingly it is a bit faster in single-threaded apps too.

However, this is a very fragile piece of code (took me 7 days to develop those 800 lines), I have tested it in a test with one bilion allocations; anyway if you have any mission critical software, I recommend to backup Core to your app nest (so that older version will be used) (and wait a week or two

Mirek

Subject: Re: New allocator...
Posted by cocob on Mon, 16 Jun 2008 13:51:47 GMT

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I can see that my apps are faster using UPP Allocator.
Do you have somes examples and time comparisons with and without UPP Allocator ?

Subject: Re: New allocator...
Posted by mirek on Mon, 16 Jun 2008 17:35:09 GMT

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Not much beyond this:

http://www.ultimatepp.org/www$uppweb$vsstd$en-us.html

(you can compare STL time with standard GLIBC allocator and with U++).

Mirek

Subject: Re: New allocator...

Posted by mirek on Mon, 16 Jun 2008 17:35:59 GMT
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P.S.: I think the new allocator is proven stable now...

Subject: Re: New allocator...
Posted by cocob on Tue, 17 Jun 2008 06:56:16 GMT
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Ok so it seems to be around 17% faster only using U++ allocator (not bad !). I have the same
results with my apps. thanks

Subject: Re: New allocator...
Posted by Mindtraveller on Tue, 24 Jun 2008 20:46:49 GMT
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Recently I`ve met discussion about new Google allocator. It was told that it is about 6 times faster
than common one.
  http://google-perftools.googlecode.com/svn/trunk/doc/tcmallo c.html

May be this could be handy, or it will be interesting to compare - just pasting link.

Subject: Re: New allocator...
Posted by mirek on Wed, 25 Jun 2008 07:27:51 GMT
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Mindtraveller wrote on Tue, 24 June 2008 16:46Recently I`ve met discussion about new Google
allocator. It was told that it is about 6 times faster than common one.
  http://google-perftools.googlecode.com/svn/trunk/doc/tcmallo c.html

May be this could be handy, or it will be interesting to compare - just pasting link.

Well, at first glance it seems to me that TCMalloc just does too much Certainly, they are not using
our main trick - keeping management data at the beginning of small-block 4KB page...

Mirek