Ruby master - Feature #4614

[RFC/PATCH] thread_pthread.c: lower RUBY_STACK_MIN_LIMIT to 64K

04/26/2011 08:56 AM - normalperson (Eric Wong)

<table>
<thead>
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<th>Status:</th>
<th>Closed</th>
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<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
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<tr>
<td>Assignee:</td>
<td>ko1 (Koichi Sasada)</td>
</tr>
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<td>Target version:</td>
<td>2.0.0</td>
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Description
=begin
The patch (committed) for Issue #4568 made this change possible.

Lowering stack size allows users on memory-constrained 32-bit machines to spawn more native threads (which are easier (IMHO) to use than Fibers).

Setting RUBY_STACK_MIN_LIMIT to 48K seems to work even with check, test-rubyspec, and benchmark-each targets. However, I'm keeping it at 64K since that is what Symbian uses, so maybe there's some code paths that need 64K.

I started experiencing failures with the Ruby tests with 44K on x86_64, so 44K is definitely not safe. Much more effort would be required to make Ruby work with smaller stacks than 48K.

Also pullable via git: git pull git://bogomips.org/ruby.git stack-reduce
=end

History
#1 - 06/10/2011 10:55 PM - ko1 (Koichi Sasada)
  - Assignee set to ko1 (Koichi Sasada)
  GC eats large stack size if there are nested object (deep nested array and so on). I'm not sure but I think this is why we allocate 512KB for stack.
  Any comments?
  I think that Thread.new should accept stack size.

#2 - 06/11/2011 04:23 PM - normalperson (Eric Wong)
Koichi Sasada redmine@ruby-lang.org wrote:

  GC eats large stack size if there are nested object (deep nested array and so on). I'm not sure but I think this is why we allocate 512KB for stack.
  Good point. I didn't think of that (rare case for me). We would need a non-recursive implementation of gc_mark_children.
  A simpler idea would be a dedicated marking thread with a deeper stack; but I think that's ugly.
  Any comments?
  I think that Thread.new should accept stack size.

I'm not sure what the API would be. While it would help me, I think it would be difficult to use and too low level for Ruby.

Meanwhile I can rebuild Ruby or use a trivial LD_PRELOAD:
http://yhbt.net/libministack.c
Ad-hoc solution, but environment variable (such as RUBY_THREAD_MACHINE_STACK_SIZE) is enough for this issue?

I think environment variable is too ugly, but it's your (or matz's) choice to support it.

Also, it seems the recursive structure problem with gc_mark_children() is gone since r37075.

Probably better to discuss #6695 instead.

ko1, what's the status?

Too many 2.0.0 tickets, especially big task ones, are assigned to ko1. ko1, please decide your priorities.

Welcome to volunteer for helping him.

ko1, what's the status?

Priority: High.

I add environment variable at r38479.

I want to ask feedback about this default setting.

I add environment variable at r38479.

Btw. you put a giant "if false" around test/ruby/test_fiber.rb with that commit. Was that intentional?
I want to ask feedback about this default setting.

I'm fine with the current defaults (including the r38592 update)

**#10 - 02/13/2013 04:00 PM - ko1 (Koichi Sasada)**
- Status changed from Feedback to Closed

Sorry I missed your comment.
And the 'if false' sentences may be removed.

**Files**

<table>
<thead>
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<td>0001-thread_pthread.c-lower-RUBY_STACK_MIN_LIMIT-to-64K.patch</td>
<td>34 KB</td>
<td>04/26/2011</td>
<td>normalperson (Eric Wong)</td>
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