Ruby trunk - Bug #13768

SIGCHLD and Thread dead-lock problem

07/26/2017 03:47 AM - keiju (Keiju Ishitsuka)

Status:	Open		
Priority:	Normal		
Assignee:			
Target version:			
ruby -v:		**Backport:**	2.2: UNKNOWN, 2.3: UNKNOWN, 2.4: UNKNOWN

Description

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```
% ruby -v
ruby 2.5.0dev (2017-07-25 trunk 59417) [i686-linux]

q = Queue.new
p = Queue.new

trap(:SIGCHLD) do
  puts "SIGCHLD"
  q.push 1
end

Thread.start do
  Process.spawn("/bin/sleep 1")
end

#Thread.start do
#  loop do
#    sleep 100
#  end
#end

th = Thread.start{
  p.push q.pop
}

p.pop
```

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---------------------------------->> e-mail: keiju@ishitsuka.com <<---

History

#1 - 07/27/2017 04:13 AM - nobu (Nobuyoshi Nakada)

- Description updated

Signal.trap□□
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```
diff --git c/signal.c i/signal.c
index 2e69cf08ac..3b026724f9 100644
--- c/signal.c
+++ i/signal.c
```

```
@@ -1235,6 +1235,7 @@ trap(int sig, sighandler_t func, VALUE command)
     sighandler_t oldfunc;
     VALUE oldcmd;
     rb_vm_t *vm = GET_VM();
+    int handle_count = 0;

     /*
      * Be careful. ruby_signal() and trap_list[sig].cmd must be changed
@@ -1261,8 +1262,20 @@ trap(int sig, sighandler_t func, VALUE command)
    break;
       case Qundef:
    oldcmd = rb_str_new2("EXIT");
+      default:
+   --handle_count;
    break;
     }
+    switch (command) {
+      case 0: case Qtrue: case Qnil:
+   break;
+      default:
+   ++handle_count;
+   break;
+    }
+    if (vm->trap_count + handle_count < 0) rb_fatal("trap_count underflow");
+
+    vm->trap_count += handle_count;

     vm->trap_list[sig].cmd = command;
     vm->trap_list[sig].safe = rb_safe_level();
diff --git c/thread.c i/thread.c
index b7ee1d8d9b..fdb9221fd3 100644
--- c/thread.c
+++ i/thread.c
@@ -4947,6 +4947,7 @@ rb_check_deadlock(rb_vm_t *vm)
     if (vm_living_thread_num(vm) > vm->sleeper) return;
     if (vm_living_thread_num(vm) < vm->sleeper) rb_bug("sleeper must not be more than vm_living_thread_num(vm
)");
     if (patrol_thread && patrol_thread != GET_THREAD()) return;
+    if (vm->trap_count > 0) return;

     list_for_each(&vm->living_threads, th, vmlt_node) {
    if (th->status != THREAD_STOPPED_FOREVER || RUBY_VM_INTERRUPTED(th)) {
diff --git c/vm_core.h i/vm_core.h
index c23f50690e..a2fa25ad50 100644
--- c/vm_core.h
+++ i/vm_core.h
@@ -550,6 +550,7 @@ typedef struct rb_vm_struct {
    VALUE cmd;
    int safe;
     } trap_list[RUBY_NSIG];
+    int trap_count;

     /* hook */
     rb_hook_list_t event_hooks;
```

#2 - 07/27/2017 04:19 AM - ko1 (Koichi Sasada)

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#3 - 07/27/2017 06:08 AM - keiju (Keiju Ishitsuka)

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ko1@atdot.net wrote:

> Issue #13768 has been updated by ko1 (Koichi Sasada).
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