
Subject: [PATCH 3/4][cryo]: Test 4: Non-consecutive pipe fds
Posted by [Sukadev Bhattiprolu](#) on Tue, 24 Jun 2008 03:34:12 GMT
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>From c7276c8cb59247faa13d42a1b871c853a80d80d1 Mon Sep 17 00:00:00 2001

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Date: Sun, 22 Jun 2008 22:43:01 -0700

Subject: [PATCH] Test4: Non-consecutive pipe fds

tests/pipe.c | 76 ++++++-----
1 files changed, 66 insertions(+), 10 deletions(-)

diff --git a/tests/pipe.c b/tests/pipe.c

index c81ac2a..5b04f46 100644

--- a/tests/pipe.c

+++ b/tests/pipe.c

@@ -5,6 +5,7 @@

#include <stdlib.h>

#include <string.h>

#include <errno.h>

+#include <sys/stat.h>

#define min(a, b) ((a) < (b) ? (a) : (b))

static char *temp_file;

@@ -20,7 +21,7 @@ char *test_descriptions[] = {

"Test with all-fds in use for pipes",

};

-static int last_num = 3;

+static int last_num = 4;

usage(char *argv[])

{

int i;

@@ -84,13 +85,50 @@ int test2()

}

}

-int read_write_pipe()

+

+reset_pipe_fds(int *tmpfds, int *testfds, int close_unused)

+

+ struct stat statbuf;

+ int rc;

+

+ if (fstat(testfds[0], &statbuf) == 0) {

+ printf("fd %d is in use...\n", testfds[0]);

+ exit(1);

```

+ }
+ if (fstat(testfds[1], &statbuf) == 0) {
+ printf("fd %d is in use...\n", testfds[1]);
+ exit(1);
+ }
+
+ rc = dup2(tmpfds[0], testfds[0]);
+ if (rc < 0) {
+ printf("dup2(%d, %d) failed, error %d\n",
+ tmpfds[0], testfds[0], rc, errno);
+ exit(1);
+ }
+
+ rc = dup2(tmpfds[1], testfds[1]);
+ if (rc < 0) {
+ printf("dup2(%d, %d) failed, error %d\n",
+ tmpfds[1], testfds[1], rc, errno);
+ exit(1);
+ }
+
+ if (close_unused) {
+ close(tmpfds[0]);
+ close(tmpfds[1]);
+ }
+ }
+
#define TEST_NON_CONSECUTIVE_FD 0x1
+
+int read_write_pipe(int *testfdsp, int close_unused)
{
    int i = 0;
    int rc;
- int fds[2];
- int fd1, fd2;
+ int tmpfds[2];
    int c;
+ int read_fd, write_fd;
    char *wbufp;
    char wbuf[256];
    char rbuf[256];
@@ -102,13 +140,23 @@ int read_write_pipe()
    strcpy(wbufp, "abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ");
    memset(rbufp, '\0', sizeof(rbuf));

- if (pipe(fds) < 0) {
+ if (pipe(tmpfds) < 0) {
    perror("pipe()");
    exit(1);
}

```

```

    }

- printf("fds[0] %d, fds[1] %d\n", fds[0], fds[1]);

- if (fcntl(fds[0], F_SETFL, O_NONBLOCK) < 0) {
+ if (testfdsp) {
+   reset_pipe_fds(tmpfds, testfdsp, close_unused);
+   read_fd = testfdsp[0];
+   write_fd = testfdsp[1];
+ } else {
+   read_fd = tmpfds[0];
+   write_fd = tmpfds[1];
+ }
+
+ printf("read_fd %d, write_fd %d\n", read_fd, write_fd);
+
+ if (fcntl(read_fd, F_SETFL, O_NONBLOCK) < 0) {
  perror("fcntl()");
  exit(1);
}
@@ -118,7 +166,7 @@ int read_write_pipe()
  sleep(1);
  if (i%2 == 0) {
    c = errno = 0;
-  rc = read(fds[0], rbufp, 3);
+  rc = read(read_fd, rbufp, 3);

    if (rc < 0)
      perror("read() failed");
@@ -132,7 +180,7 @@ int read_write_pipe()
  continue;

  errno = 0;
-  rc = write(fds[1], wbufp, min(3, strlen(wbufp)));
+  rc = write(write_fd, wbufp, min(3, strlen(wbufp)));
  if (rc < 0) {
    perror("write() to pipe");
  } else {
@@ -156,7 +204,14 @@ int read_write_pipe()

static void test3()
{
- read_write_pipe();
+ read_write_pipe(NULL, 1);
+}
+
+static void test4()
+{
+ int tmpfds[2] = { 172, 101 };

```

```
+  
+ read_write_pipe(tmpfds, 1);  
}  
  
int  
@@ -182,6 +237,7 @@ main(int argc, char *argv[])  
case 1: test1(); break;  
case 2: test2(); break;  
case 3: test3(); break;  
+ case 4: test4(); break;  
default:  
    printf("Unsupported test case %d\n", tc_num);  
    usage(argv);  
--
```

1.5.2.5

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