Resolving TTY "Respawning Too Rapidly" Errors

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Note: The information in this document has **not** been verified for AIX 4.1.

About This Document

There are various causes of the tty "respawning too rapidly" error, from cabling problems to corrupt configuration files. This document contains a list of possible causes with suggestions for resolving the problem. This document applies to AIX 3.1 and 3.2 on the RISC System/6000.

How the Error Occurs

In general, the "respawning too rapidly" message is sent by the system to warn users that there is a problem on the tty port and that too many gettys, or "login heralds", have been requested for that port.

The following scenario shows how this error may occur. Note that the timing numbers shown below may change in later versions of AIX.

1. The system spawns a getty and sends a "login herald" to the terminal on tty0.
2. Loose cabling on the terminal causes line-noise which forces a new getty to be spawned.
3. The system is keeping track of the total number of gettys spawned for tty0 within a three minute and 45 second period; if that number exceeds five, then an error is displayed on the console and the system shuts down the port.

   Note: You can duplicate this yourself by logging in and out of the terminal several times very quickly within the above mentioned time span.

4. The port will stay in a suspended state for about 19 minutes or until the system administrator "enables" the port again. At the end of the 19 minutes, the system will automatically enable the port.

   Note: PTF IX37168 changes the amount of time that the port is suspended from 19 minutes to a maximum of 240 seconds.

5. If the problem persists, the system will permanently shut down the tty port and the administrator will need to reboot the system or run the CLEARTTY.c program (see “CLEARTTY.c Program” on page 3) which may help correct the problem.

Causes and Suggestions

1. Modem devices are the most likely causes of the "respawning" error.

   Suggestions for HAYES compatible modems:

   - Connect to the modem and examine the active profile.
   - Carrier detect should **not** be forced high ("&C0"); it should be set for "&C1" with the command "AT&C1".
   - In the active profile, verify that "result codes" is either turned off or set to "originate only". Try turning result codes off with "ATQ1".

2. The "timeout" or "TIME before advancing to next port setting" is set to a value other than `0` for ttys connected directly to terminals.

3. A port is defined and "enabled" but no cable or device is attached to it.

   Suggestions:

   - "Pdisable" the port and remove the device.

4. Bad cable or loose connection.

   Suggestions:

   - Verify that the cabling is IBM cabling or that it meets the same standard.
   - Check for loose connections.
   - Check for bent pins at the connections.
   - Replace the cable (as a test) with an IBM serial cable, PN: 6323741.

5. Corruption/tampering with the "/etc/environment" or "/etc/inittab" file.

   Suggestions:

   - If possible, compare these files against known good copies.
   - Make backup copies of the files and make changes as needed.
   - In "/etc/environment", remove any lines that are not 1) blank lines, 2) comment lines, or 3) variable=<something>.

- In "/etc/inittab" look for strange settings on tty. Sometimes these are customized to fit certain applications (such as the Pic Blue operating system). If the tty is set to off, it is probably not being used and should be checked. Remove any inconsistencies.

6. Check your error report log with the "errpt -a | pg" command. Look for errors associated with tty software and/or hardware (e.g. "buffer overruns", "lion_box", or "concentrator" errors).

   Suggestions:

   - If you find hardware errors ("lion_box died", for example), first make sure a user did not cause the error. Then contact your CE (customer engineer). When reporting the problem, mention all errors, including software-related ones.

     Note: Certain buffer errors can be caused by faulty hardware.

7. Noise on communication line.

   Suggestions:

   - Verify that cabling is the correct length and impedance; also check that toroid rings are in place where needed on longer cables.
   - Check the routing of cables — they should not be close to fluorescent lights, motors, or other high line-noise sources.
   - Again, verify that cable connections are tight.

8. TTY configuration is corrupted.

   Suggestions:

   - Try deleting the tty via smit and then re-adding it.

9. Hardware is defective.

   Suggestions:

   - Run diagnostics.

CLEARTTY.c Program

If the system permanently shuts down the tty port, the system administrator may need to reboot or run the following program.

In the following code, some characters may appear incorrectly. If the characters in the following list do not match their description, be sure to change them in the code.

[left bracket
] right bracket

(Code begins on next page.)

```
/*                              CLEARTTY.c
        Program to attempt a reset of tty port without rebooting.
        To test the effectiveness of this program, do the following
        both before and after running cleartty:
                    pdisable tty0
                    echo "tty tty0" | crash > crash.out

 NOTE:  If tty0 is on a 16-port concentrator off a 64-port Async
        Adapter, you would replace "tty0" with "tty0/0".

        Edit the "crash.out" file created above and look at the
        "port status" line.  A normal, "disabled" port should have
        a status of "iclose ccnt=0".
_____________________________________________________________________

  To create program:

              o "vi cleartty.c"
              o  enter the following C program and save the file

  To compile program:   "cc -o cleartty  cleartty.c"
  To execute program:   "cleartty /dev/tty0"

_____________________________________________________________________ */

/*   PROGRAM  BEGINS  HERE                                            */

#include <errno.h>
#include <fcntl.h>
#include <stdio.h>
#include <termios.h>

main(int argc, char *argv[])
{
   int fd;
   if (argc < 2) {
      fprintf(stderr, "Usage: %s /dev/tty?\n", argv[0]);
      exit(1);
   }
   if ((fd = open(argv[1], O_RDWR | O_NONBLOCK)) < 0) {
      perror(argv[1]);
      exit(errno);
   }
   if (tcflow(fd, TCOON) < 0) {
      perror("tcflow");
      exit(errno);
   }
   close(fd);
   exit(0);
}
/* PROGRAM ENDS HERE */
```

Reader's Comments

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END OF DOCUMENT (tty.respawn.zap, 4FAX# 2564)