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| Bochs User Manual | | |
| [Prev](http://docs.google.com/debugging-with-gdb.html) | Chapter 8. Tips and Techniques | [Next](http://docs.google.com/bios-tips.html) |

8.15. Using the serial port

This section describes what is possible to do with Bochs serial port emulation. These examples use dlxlinux disk image (downloaded from  [http://bochs.sourceforge.net/guestos/dlxlinux3.tar.gz](http://bochs.sourceforge.net/guestos/dlxlinux4.tar.gz) ) running as guest, on a debian x86 linux 2.4.19 host.

For the examples to work in dlxlinux, after you login as root, you will need to kill the running gpm, as it grabs the serial port.

Welcome to DLX V1.0 (C) 1995-96 Erich Boehm  
 (C) 1995 Hannes Boehm  
  
  
dlx login: root  
Linux 1.3.89.  
dlx:~# ps | grep gpm  
 30 S0 S 0:00 /usr/bin/gpm -t bare  
 40 1 S 0:00 grep gpm  
dlx:~# kill -9 30  
dlx:~#

8.15.1. Logging serial port output to a file

The first example shows how to log information sent to the serial port on the guest system into a file on the host system.

Update the com1: section of your configuration file:

com1: enabled=1, mode=file, dev=serial.txt

After you've launch dlxlinux, everything sent to the serial port will be logged to serial.txt :

dlx:~# echo "logging to the serial port" > /dev/cua0

host$ cat serial.txt  
logging to the serial port  
host$

8.15.2. Interactivity : connecting to a virtual terminal

The second example shows how to connect to the guest OS, using a virtual terminal on the host OS.

First, you need to find an unused virtual terminal. Typically, X uses vt7; vt8 and up are unused. On my system, I can switch from X to vt9 by pressing ctrl-alt-f9 : this virtual terminal is not used, the screen is all black. Pressing alt-f7 switches back to X.

Once you found an unused vt, update the com1: section of your configuration file:

com1: enabled=1, mode=term, dev=/dev/tty9

The number must be set according to the terminal you want to use (here 9).

Now, launch dlxlinux. After you log in as root and kill gpm, enter the following command:

dlx:~# /sbin/agetty 38400 cua0

If you switch to vt9, you can see dlx welcome banner, and the login prompt:

Welcome to DLX V1.0 (C) 1995-96 Erich Boehm  
 (C) 1995 Hannes Boehm  
  
  
dlx login:

Note that dlxlinux is configured so you can not login as root from a serial port. If you want to login, you have to create a new user first.

Also, if you plan to use this feature, the best would be to deactivate gpm in /etc/rc.d/rc.local, and add a agetty line in /etc/inittab, for example:

T0:1234:respawn:/bin/agetty 38400 cua0

8.15.3. Interactivity : connecting to a pseudo terminal

The third example is very similar to the second one, except that we connect to the guest OS with kermit as client, and we the connection is done through a pseudo terminal.

This example uses /dev/ptyp0 and /dev/ttyp0 as pseudo terminal pair. We will tie Bochs to the controlling terminal, whereas kermit will use the slave terminal.

Update the com1: section of your configuration file:

com1: enabled=1, mode=term, dev=/dev/ptyp0

and lauch dlxlinux. After you log in as root, enter the command:

dlx:~# /sbin/agetty 38400 cua0

Then in the host OS, launch kermit :

host$ kermit -l /dev/ttyp0  
C-Kermit 7.0.196, 1 Jan 2000, for Linux  
 Copyright (C) 1985, 2000,  
 Trustees of Columbia University in the City of New York.  
Type ? or HELP for help.  
(/tmp/) C-Kermit>connect  
Connecting to /dev/ttyp0, speed 0.  
The escape character is Ctrl-\ (ASCII 28, FS)  
Type the escape character followed by C to get back,  
or followed by ? to see other options.  
----------------------------------------------------  
  
Welcome to DLX V1.0 (C) 1995-96 Erich Boehm  
 (C) 1995 Hannes Boehm  
  
  
dlx login:

The same comments as for example 2 apply here.

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| --- | --- | --- |
| [Prev](http://docs.google.com/debugging-with-gdb.html) | [Home](http://docs.google.com/index.html) | [Next](http://docs.google.com/bios-tips.html) |
| Using Bochs and the remote GDB stub | [Up](http://docs.google.com/howto.html) | BIOS Tips |